A SYMPOSIUM OF STUDIES ON EMOTION

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Louisiana Notes.

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Gestalt: its application to the presentation and recognition of emotions.

~~THE RECOGNITION AND THE EXPRESSION OF EMOTION~~

The study of emotions and their relation to expression is one of the oldest recorded subjects.

Their importance came about primarily thru the channels of drama. The extant works of the Grecian Aeschylus, Sophocles, Euripides and Aristophanes bear witness to the part the emotions played in the earliest recording of systematic dramatic forms. From a study of these dramas the scholarly Aristotle (3) wrote his famous "Poetics". The first known theory was promulgated by him and we know this theory as "Catharsis": a purging of the emotions. It was the contention of the Greeks that civilization could be purged of certain detrimental emotional responses by having them majestically presented in the form of the drama before large audiences. The Grecian mind was limited somewhat by the acceptance of the motivating Nemesis (fate) and the impelling Idoas (self-respect). Revenge, hate, lust, jealousy and distrust were thrown at the mercy of the gods and destiny impelled men and women to their prescribed courses. And the food of destiny was man's category of emotions. A Hecuba, grown mother-old in sorrow lived to see her virtuous Cassandra led away to a Grecian lord, with the hope that a lustful embrace could be terminated by a surreptitious dagger; saw her grandchild, Astyanax, torn from Andromache's heart and led by soldiers to his rocky death, that there might be no heir to Trojan greatness; and her Trojan women

to be led in animal file to unknown masters. The grand protest to war and the appeal of Hecuba to all mothers of men boomed out in the great amphitheatre and the male actors wore great resonating masks with one fixed expression; sorrow, or hate, anger or dismay, as the situation demanded. Easy to recognize the intent of a Grecian actor; his great face was made for him and the intent of the character fixed in Hellenic tradition.

With the advent of the modern actor, say of the Elizabethan period, a new complexity was ushered in. Small theaters, with many actors using their own faces to express the appropriate emotions. Shakespeare had his Hamlet instruct the players, "Suit the action to the word and the word to the action," and not to imitate humanity too abominably. Then, the art of acting became a matter of national discussion and favorite actors drew their respective champions. "Styles" of acting were being recognized: that is, different ways of expressing the same thots were coming into vogue. Certain lines were being given in different manners. The matter of "how" was being made a conscious concern.

When women were admitted to the English stage, the problem of emotions became a matter of great interest. Did Nell Gwyn really "love" her hero of the stage or was she "just acting." Audiences started to talk about the difference between "life" and "art". Could emotion exist unless the

actually "lived' the part? Could a person portray Desdemona or Othello and not actually "feel" the part. Bitter the controversy grew and such savants as Dr. Johnson, David Garrick, Coleridge, Hazlett and Lamb met at the Tavern to discuss these weighty matters. The "art of acting" became the topic of the day; the clubs were alive to the gossip; Kings and Queens had their dramatic favorites and "she certainly isn't acting now" was a phrase often heard outside the Green Room.

It about the height of this controversy of the meaning of emotions a significant work was presented to the world: "Emotions in Man and Animals" by Charles Darwin.(7) Mr. Darwin proposed six major methods for the study of emotions:

(1) The observation of infants

(2) " " " the insane

(3) " " " photographs, models and electrically impelled or motivated facial muscles ~~muscles~~.

(4) " " "painting, sculpture, and other works of art.

(5) " " "the different races of men

(6) " " "emotional expression in animals.

The work Mr. Darwin submitted in 1871 (7,4 edition in 1873) has become the standard of study from that day to this. One of his methods has dominated the majority of investigations: only the science of endrocrinology has come to us without the suggestions of his premises.

Mr. Darwin was not the first to write scientifically on the subject. Aristotle had given us "Physiognomie", three major parts of which were devoted to expression; Plato (85) in his "Dialogues" cautioned about the necessity of studying expression as a great whole not as an isolated unit, to get a totality, not a segment or fragment of the expression. Horace gave advice on the control of emotions and the ability to express them. The classic approach was current thru out the centuries and not until the challenge of Galileo (10) was there a new approach to the study of nature and life.

As early as 1667 Chas. LeBrun (67) the French painter published his 'Conferences', a very elaborate and detailed treatise on the expression of emotion. Much European subsequent study was based on this. In 1774 Camper (14) a Dutch anatomist, gave his students and the public the rare "The Discourse". This paper was subject to challenge and defense and reached the heart of many drawing rooms. Lavater (6) published in 1775 his "Physiognomische Fragmente zur Beförderung der Menschenkenntnis (Vier bersuche). His German study was similar to Camper's and is one of the most useful works for showing historical progress in the research with emotions. Possibly the first real, careful study of emotions on a scientific basis was that of Sir Charles Bell (5) in 1806. "Anatomy and Philosophy of Expression." This study fixed the dignity of the subject and raised the standard of its study. Moreau (93) added to the Bell research and clarified some points.

One of the pre-Darwin experiments was the attempts of Duchenne (11) of Boulogne to analyze facial expression electrically. His first task was to find a person whose skin was hyposensitive or anaesthetic. He was fortunate in getting an old man who worked well in the experiment. Duchenne produced many facial expressions which were photographed and then enlarged. He was interesting in that he ascribed to each muscle a certain and specific function. He was interested in the isolated contraction which produced definite wrinkles or furrows in the skin and maintained each change of muscle response produced a definite emotional set. "The contraction of a single muscle --suffices to express a 'passion'". He analyzed many of the emotions and intellectual responses and named the muscles involved. He was very accurate in this, especially if applied to a general pattern. He was again peculiar in that he believed all "emotional gesture divinely instituted." When this language was once created, it was sufficient to give every person the instructive faculty of expressing his emotions by the contraction of the same muscles. This accounted for the universality of gesture and its immutable qualities. His thesis gained wide credence but was successfully refuted by G. Dumas (64) in 1922. The electric stimulation was explained in several ways but Cosso (46) contended that it was the quantity of electric stimulation rather than the quality, which determined the exact expression. His work was another approach in that he worked with dogs. As the current increased the expression changed from placidity to anger, rage and such stronger responses.

A passion for "theories" went thru the 19th century. Gratiolet (44) in 1865 propounded his "symbolic" or "sympathetic " theory of facial expression. He was a noted anatomist and his work engaged members of the French Academy in heated discussion. Wilhelm Wundt (184) presented his Mimetic theory, which differed somewhat from Darwin, but he had three major propositions as did Darwin. Ribot (77) wrote his "Psychology of Emotions" chiefly on Wundt findin .. Ribot was distinctive in that his philosophy stated that the "body affects the mind as much as the mind affects the body." Ribot was almost ready for an expression of monism in contradistinction to the usual dichotomous relations of the day.

It would not be fair to ignore the unique efforts of Tiderit (93) who, in 1859, presented a plaster head which had movable parts, giving the face ample power for a very wide variety of expression. This further convinced some scholars of the "fixity" of expression. His diagrams and models were modified by Tichenor (), Guilford (), Hughes (), Ruckmick (90), and others.

Just as speech is quite universally accepted as a secondary process (i.e. all agents of speech are primarily used for breathing, biting, sucking, swallowing, etc.) so Darwin contended that distinct uses could be assigned with great probability for almost all facial expressions, independent of expression. He did not press the assertion very enthus-

iastically, as biting, sucking and protective activities do not use all the muscles extant in emotional expression. Bell had previously stated many of the facial muscles were purely instrumental in expression and that there was a sharp distinction between man and animals, that animals "seem chiefly capable of expressing rage and fear." We read with Darwin that dogs may express love and humility better than man. This again is a controversial point,

This paper is not concerned with argumentative points involved over the question of man's evolution from animals, but it is significant that the higher primates can and do express the major unpleasant emotions possible to man; that the primates and the higher animals are limited to their expression of the pleasant emotions.

In a study of emotion, physiology tells us that there are twenty four sets of facial muscles and observation proves that eighteen pairs are used for the expression of the unpleasant and six sets are used for the expression of the pleasant.

The man-beast dichotomy has fairly well been discarded in favor of the Darwinian theory as a more workable premise. It is observable that many of the unpleasant emotions as shown by animals closely follow the musculature pattern of man (anger, snarling, fear, etc.). The general laws of expression as proposed by Darwin have been quite universally

accepted. 1) that emotions exist as serviceable associated habits, 2) that their expression is accompanied by musculature and social antithesis (directly due to contraction and release of the muscles and their social evaluations in terms of pleasant and unpleasant) and 3) the direct action of the nervous system (Recent endrocrinology has opened up volumes in this phase.)

The statement of my problem has little to do with emotions greatest controversy; are they innate or acquired. It is an erroneous assumption on the part of any student to accept that an emotion can better be recognized in physiognomical form because it is otogenically innate. The very process of society in curtailing natural responses is ample warrant to challenge such an assumption. The many experiments carried on by the writer (18) to prove that adults do not know how to reproduce emotions or emotional contour "at will" and that society often distorts the individual concept of the value and use of emotions, is proper warrant for discrediting any study based on the assumption that knowleage to reproduce or recognize is accurate because material of observation is innate. Endrocrinological studies as summarized by Davis (19) in his "Advance of Science" prove that certain emotional responses are dependent upon the proper functioning of the various glands, and that sex responses are delayed many years in the individual life. Very often, and more often than not,

the average person has never analyzed an emotion and is not conscious that it has social value, until he is asked to act or represent some character. He must be "someone else" before he thinks in terms "emotionally". When he tries to show an emotion, either he actually produces the emotion and all its peripheral connotations or else he "represents" the emotion by physiognomic and vocal technic. Unconscious knowledge is often a long step from conscious knowledge. That an emotion be innate or acquired is not the essential matter in their being recognized accurately. Knowledge of what to do is far more effective than "feeling" what to do. It is a maxim of the stage that knowing what to do is an adequate assurance of the ability to reproduce when necessary. A director must cultivate the ability properly to recognize an emotion as he is the moderator between an audience and actor. The director sees what the audience will see and he is no wise concerned whether an emotion is innate or acquired--that it be represented adequately is his desire and he wants a person who knows how and can conserve time (19). In all studies where professional actors have been used, it is observed that they are more accurate in the presentation and recognition of emotions than those lacking the training of the profession. This would warrant a conclusion that the ability to use emotions may be acquired while the stuff out of which they may be made is innate.

Much has been done with all of Darwins' proposals for the

study of emotions. Psychology is rich with study of "infants". To list a few, Blanton (7) Bühler (11) Dennis (24) Cooley (8) Gesell (27) McJones (56) Kemmel) Perez (81) Pryer (87) Sherman (90) R. W. Washburn (97) and J.B. Watson (102). Watson's conclusions have become the most widely known to the laity but Prof. Dennis of Virginia has achieved some of the most significant work. His latest work has to do with smiling and testing of two theories of social smiling. That babies universally mile at adults is an accepted fact; the reasons for their smiling are propounded in two theories, as stated by Dennis; (1) The human form and voice are themselves the native causes of smiling and hence no explanation in terms of the social experience of the infant is necessary. (2) The form and the voice of the adult becomes effective because of their assosiation with the original stimulus. Preyer (87) stated that the original stimulus is a condition of satiety and Watson believed the contact stimuli to be the most effective. From a very carefully worked experiment Dennis and his wife conclude that no stimulus for smiling was more effective than the presence of the adult. That "social smiling" most often occured asthe adult bent over the child to administer some attention before the attention was delivered. In as muchh as the voice was never used as a stimulus to one of the fraternal twins, it could not be classified as the exciting stimulus to smiling

~~it could not be classified as the exciting stimulus to smiling.~~ Conclusions are "Smiling becomes a conditioned response to any stimulus which brings about a cessation of fretting, unrest and crying. It has no unconditioned stimulus." That babies do express forms of fear, rage and love is universally admitted. The value of the findings of the study of expression of the emotions in infants is chiefly centered in the fact that emotions are expressed from infancy ~~throughout manhood~~ and the patterns of these emotions remain consistently the same during life. A further value of the study of emotion in infants is that some emotions or emotion (Schoen concludes that there is only emotion and that emotions are expression of the same stuff in varying channels) exist in earliest infancy and are later modified or conditioned to more complex expressions.

A study of emotions in people outside of general normalcy has attracted special attention from psychiatrists. The judgment of emotions in this group has but one major problem for this specific study. As an example: In the case of the idiot, whose age hovers close to three years, it becomes interesting to know if such a phenomena as sexual desire develops when the body is nearing the normal period of puberty despite the mental age remaining constant. If this were true then we could have the remarkable situation of emotions developing because of physical age independent of mental age.

If no sexual responses develop in the idiot then emotions are dependent upon the harmonizing of the physical body to the mental age. With the idiot we find primary emotions existing in the infantile state until death. The impulsive, easily diverted responses dominate in the idiot as in the babe. The same is quite true of the imbecile.

The more we study mental deficients the more we are convinced that mental life is the dominant gradient in emotional responses, and that emotions are mento-physical activities. The more complex the emotion the more positive is the conclusion. The study of emotions as expressive material is a virgin one, as far as the insane and mental deficients are concerned.

The third group of studies of emotion as proposed by Darwin is the one which has dominated teachers of speech and most of the psychologists to date. This group will take the major attention of our paper. So we shall mention, but briefly, the fourth, fifth and sixth divisions of Darwin's thesis.

Darwin's proposed observation of painting, sculpture and other works of art is quite generally absorbed in Section Three of this discussion. The artist takes his model and puts him in color or marble with a specific concept of what he, the artist, wants to do. Whereas a photograph reveals exactly as

the subject is; not what the subject thought he may have been or what the artist might have wanted. Sculpture is especially interesting to torso, and gesture studies. As an emotion is permanently fixed in marble or bronze, these media are very pliant to representative musculature relationship. Sculpture seriously lacks in eye-depiction (personality of the eye) and subtle wrinkle-habits, as it is rich in torso symmetry (because of the three-dimension development). The artist can idealize and catch expressions that even the watchful camera may never be able to detect. The enigmatic expression of a Mona Lisa has seldom been seen by artist or laymen in actual life. It is chiefly a creation. The artist has the advantage over life in that he can produce and hold an expression permanently. Age changes the expression of an emotion in an individual, whereas an emotion, once put in color or bronze remains as an eternal heritage, or as long as elements coordinate. Connoisseurs of art are keen students in the judgment of emotions. They have learned to observe minutely, as well as accept socially. It is traditional that our great actors and actresses are keen observing students and ardent admirers of great works of art; they testify to the value in their profession.

Of section Five, little has yet been done which would merit value in our study. The study of emotions is so modern, in the light of man's history, that only the present studies have acceptable values. I know of no study which states that

Italians can judge the expression of emotions better than Norwegians, tho many sociologists have stated that Mediterranean subjects have a more varied, emotional or more aggressively expressed emotional life. It seems to me that here is a very good study for some one who has access to great variations in population.

Mr. Darwin was especially interested in Section Six--the observation of emotional expression in animals. Much has been done with this. Darwin (3) Koehler (5) Koffka (4) Yerkes (5) Thorndike ( ) and Foley (6) have some of the more important studies. All tend to accept Darwin's evolutionary premise and accredit emotions as being innate. Koehler and Kofka are two continentals who have greatly advanced the Gestalt psychology from their studies with animals. It is this Gestalt phase of the study of emotions which I especially wish to develop in this paper. I agree with several scholars who can see no relevancy in the ability to adjudge or recognize emotions in animals as being of especial value in the judgment of human beings, but that there is a marked similarity in the expression of the more primitive emotions is significant. The differences and arguments I shall leave to those interested. We may learn much of man by being interested in and observing animals.

And now for proposition three of Darwin's postulation; The observation of photographs, models, electrically activated facial muscles.

This started a study on the part of psychologists and

sociologists that equals any other enthusiasm I can recall to be so unproductive of favorable , worthwhile results. In general, the subject of emotions has been almost taboo with teachers of speech. The Journal of the National Assn. of Teachers of Speech is woefully deficient on the subject of emotion as an integral part of speech study. No doubt, that has arisen because of the universal method of teachers of speech to tell other students; "Be natural". It thus obviates the necessity of knowing anything about the nature of emotions and their expression. If emotion is primarily innate how can it be thrown into a conscious association without its becoming a part of consciousness? If it be acquired why [illegible] it consciously?

A teacher of drama, directing a play, once said,"Be unconscious of yourself until the danger point arrives and then become conscious!" You, Othello, be perfectly "natural" until you are about to strangle Desdemona, then, of course, become aware that you are only acting. Mr. Darwin said emotions are innate, therefor, concludes a teacher of speech (but usually the conclusion came from a teacher of a teacher of theirs) emotions cannot be studied or their outlines learned, they must spring full-bloomed,from thought, irrespective of the fact that John is not Othello, but an actor on the stage with dangerously tight tights and a weak stomache. And Mr. Darwin submitted that it would be profitable to study emotions from photographs, models and electrically activated facial muscles.

The fact that many teachers of interpretation quite universally ignore the subject of emotion as a conscious technic, is perhaps the reason why they cannot recognize them any more accurately than the average untrained person.

Darwin's own book has excellent drawings of an actor expressing various emotions. These drawings are better than the average in that the subject was a trained actor and the artist knew how to concentrate on the central idea. They are better than many photographs in that a good portion of the torso is included.

On the assumption that an emotion may properly be studied from drawings and photographs of facial expression, the following authorities may be cited for their efforts: Allport( ), Bell (5), Crile (), Darwin (), Duchenne(), Dumas(), Feleky(), Frois-Whittman(), Hughes(), Landis( ), Mosso(), Piderit(), Pope(), Ruckmick(), Rudolph (), Watson(), and Wundt(). And the list is by no means completed.

In these pictures no or but little recognition of Gestalt has been given. Despite the many pictures of Rudolph, of Feleky, of Ruckmick and others the emotion has been pictured only in segment, the environment, the entire body with all of its gesture responses, has been disregarded. It is a difficult task to "name" an emotion, say anger, by looking at a face, as it is to recognize a face when shown only a nose. Most of the emotions used in the average photograph-study are of the

primitive or primary type and require a full body pattern. The hands are as much a part of anger as the face, and the stimulus is as important for interpretation as the response. Woodworth (10) says;"the relation of situation and response is the essential feature of the judgment of emotions." T. Dembo (2) has given an excellent study of anger and always is obliged to discuss it from a Gestalt situation.

It is not specifically the province of this paper to go back to a pre-natal study but more articles are being submitted which prove the totality of bodily responses in nearly all situations. Coghill (1) states "in embryological development even reflexes are formed by a gradual differentiation of reactions which originally involve the whole organism." Wheeler's studies (10) of Organismic Psychology bear out this conclusion further.

But more will be said of Gestalt and the recognition of emotions.

As we study these emotion-pictures, we find many built on the Rudolph technic, who presented nearly 700 excellent drawings and sketches. To my knowledge no collection has since been so exactive or complete. He held to a specificity in expression of emotions and greatly affected its acceptance. Feleky took many pictures of herself. She was very excellent with her eyes but lacked the versatility of an ordinary stock-actor in portraying emotions or in honoring a ligitimate Gestalt. Freie-Whittman had some half hundred

self-photographs and advocates the Gestalt view and believes that the significance of a particular muscular involvement is not constant, but relative to the rest of the pattern. Feleky and Ruckmick used an amateur actress as model and got an amateur actress result. Whether it be photographs or model, the effect upon recognition or even proper presentation would be practically the same. Perhaps artist sketches would be the best of the three in terms of accepted accuracy. Aubert (4) used artist sketches to depict the major gamut of emotions and describes each picture in detail, believing sincerely in specificity for each emotional response. Brown (9) developed a technic for the whole body. All picture technic errs in the direction of incompleteness. Of the many shadings in emotional responses, very often the most important factor of such response is the stimulus. Lewin (68) gives many examples to show the tremendous importance of Gestalt. He uses an example of the baby seeing a piece of chocolate in front of it. It brightend up and goes immediately toward the chocolate with a smiling face. The next day he sees the chocolate and his face turns away. He had become sick of chocolate the day before. Nothing had happened to the chocolate of the same brand and size, but something had happened to the child, a something between original stimulus and last response. No photograph could ever reveal all this. A child may smile, as it stands near the lamp, first at its mother, then at its dog, at its dinner, at its nurse and finally at the butcher boy who

occasionally romps with him. A photograph of the child would appear about the same in each instance. But take a photograph of face configuration and observe how much more easily it is to note subtle differences in the baby's smile, which otherwise go unheeded. (Perhaps the observer reads into the photograph something in his own experiences as he looks at the different pictures--very possible, and not to be ignored, which is further proof that all emotional experiences are total wholes of ramifying environment, i.e., Stimulus--response--environment-observer, with no possible elimination of any factor for any degree of accuracy.) To prove that a picture is more effective when we approximate a complete Gestalt, (80) pictures were made of two boys fighting--fighting hard. First one face was shown to observers, then faces were shown, and then a full picture of the actual fight. There was almost an unanimous accuracy in all classes of observers when the entire picture was presented--and better accuracy of emotion recognition when two were shown, compared to a single face. And in each instance, the observer was asked to concentrate upon the emotional responses of fighter A. No accuracy in recognition of emotions can be expected to rate very consistently if only a small portion of the Gestalt is shown.

That the lists of emotions submitted from pictures will differ materially in results can most easily be expected. If we use but four of such lists the answer will be apparent.

The emotions for each selection are listed in order of their proper identification, the last being most confused and the first most accurate in terms of expected results:

Allport; laughter, bodily pain, fear (horror) distrust (hate) amazement, anger, doubt, disgust.

Jenness; amazement, laughter, bodily pain, anger, distrust, disgust (scorn) fear (horror) doubt.

Kenner; surprise, fear, heartless intent, contempt, horror, determination, disgust, sneer, sympathy, suspicion, pity, interest, justified anger.

Langfeld; laughter, amazement, bodily pain, hate(aversion) fear, disgust, doubt, anger.

The great variation of subject material, the differences of the pictures purported to be fear and anger, the inability of the experimenters to agree upon exact factors for conducting experiment, that is, not knowing their own differences in arriving at a norm of judgment; getting greatly differing audiences under many varying circumstances; one subject may have just experienced a severe scene of anger and another may not have seen anger or fear expressed for many months--these are elements for such a study that mitigate against any degree of experimental accuracy. Often a person may express a certain emotion but not see that emotion expressed for a long period of time. Of the many lists we have seen, laughter is reported to be easiest to recognize--no one

emotion has been determined so far as least apt to be recognized.

There are some dozen theories of laughter, the most accepted being incongruity, superiority, contrast, social correction, release, and the Freudian concept. We may laugh with almost any other emotion. Bergson (6), Freud (9), Sidis (15) are examples of those who have devoted volumes to the subject. G. S. Hall (11) long ago was interested in this study. Jane Dowl (19) presents views so common to the acting profession. The causes of laughter are almost myriad and differs in most countries. No judgment could have real value unless the situation--environment relations were somewhat akin to the receptive values of the observer.

What may be said of laughter, can be said to a lesser degree of stage fright. "Stage fright" is effected by many different causes, much of which is little akin. Lack of personal confidence, presence of a depressing superior, over anxiety, memory "hurdles" ("I can do it if I make that spot") sick-headache, etc. And a picture would have great difficulty of facially approximating any of these Gestalten. Wilson(10)(7) makes this matter quite plain. Jenness has done considerable work with emotion-recognition and concludes that "it is significant, however, that laughter stands out above the other expressions as the most readily recognized pattern. Further generalization will have to await the development of better and more uniform experimental techniques than those available at present." It is the

last sentence with which I am concerned. When experimenters, who insist on using photographs as an easy way of studying emotions, procure a full photograph of all elements and parts that go to make up an emotional response, then we shall be more capable of answering some of the problems presented in this study. When we shall approach a stimulus-response-environment-observer basis of comprehending emotions.

Possibly no student has done more for the advancement of this study than Carney Landis (42,43). Like most modern students he does not believe with Darwin, that emotions are innate, but concludes that the recognition of emotion is acquired in regards to photographs. He says that these "photographs and drawings are not true portraits of the faces of emotion, but are rather pictures of the socialized and to a large extent conventionalized reactions which are used as supplementary language mechanisms." All speech is a secondary process and emotional response is but the means of augmenting expression powers. That these responses are socialized is the process that gives them value. That much of Landis' we are willing to accept but some of his conclusions seem not to be warranted from his own experiments. I took exception to some of Landis' work in my "Emotions in Dramatic Art" (79). In a report by Dennis (26) he fully explains the Landis technic for determining specificity of

of facial expressions--that of outlining with charcoal on the subject's face the regions of the principal muscles and muscle-groups. During the response a photograph of subjects' face was made and a verbal, personal report taken from each subject after the photograph. The pictures were compared with the subjects reports. This seems to be a closer study, on the surface, than is possible from photographs of sketches. But Davis aptly points out the errors which may and do result from this technic, and Landis partially agrees with Davis' criticisms.

Quoting from Davis:

"An examination of Landis' experiment on facial expression reveals an error in statistical procedure which invalidates these conclusions." And further, "The intercorrelations indicate that facial expressions in different circumstances have some common features and some which are peculiar to the situation at hand." And this is significant "There may be a limited number of typical facial reactions patterns. But another possibility is suggested--that there is an indefinitably large number of facial expressions each differing but slightly from its nearest kin." Mr. Landis makes reply in part and says, " Criticism of original statistical entries justified.--------The chief conclusion of the present proper, that the nature of the stimulting situation

plays a part in determining the nature of the facial response and that there is also a correspondence between subjects reports and facial responses, is probably correct." All our more recent, careful studies tend to emphasize the necessity of studying emotional response from a Gestalt basis.

Murphy and Murphy (??) also challenge the Landis' technique "First, Landis' data are based upon sessions during which one exciting or disturbing situation after another was presented, and it is by no means certain that the reaction to the third or fourth stimulus was what it would have been if the stimulus had been given in another situation. In fact, in those experiments in which the subject had been requred to go thru prolonged tension, it is very doubtful whether the particular stimulus acting upon the subject at the time was really the chief cause for the behavior exhibited. (emphasis is mine) For this reason we cannot evaluate Landis reports of the kind of facial expression, blood pressure, pulse change, etc., which attended certain stimuli, for how can we know what the change in these physical functions would have been if the stimulus had not been preceeded by a long and grueling succession of shocks and horrors?" This is another way of challenging any study of emotion that does not take into full consideration the respective Gestalten, stimulus-response-environment-observer technic.

That emotions are more than mere outlining of facial contour is evidenced by the fact that most observers and many

of the early workers in the nature of emotions were affected by the naming of the emotion. Langfeld (54) early came to the conclusion that names greatly aided in judgment accuracy and the study of Jarden Fernberger (52) augment this conclusion. This is further proof that investigators cannot confine the study of emotion to a picture--it must be on a stimulus-response-environment-observer basis, behind experiences and understanding. Charlie Chaplin pictures are being played around the world today. Silent pictures of universal appeal in a universal language, gesture in environment and the whole world understands whether it be in Timbuctu or Bankok, Tokio or Canton, Arawak or Sumatra, from the igloo to palm thatch. A Chaplin silent picture procures royalty from all nooks and crannies of the earth. Pictures in Gestalten, a built-up situation, not an individual isolation as each picture on the film actually is. The technic of the motion-picture is another interesting phase of our study which will be developed later. Münsterberg anticipated the value of the study (94).

Certain scholars have found interest in determining which part of the face is most efficient in portraying emotions. Wundt long ago held that the mouth was the most important agent. Ruckmick (49) had also found that the mouth and environment best revealed emotion. Dunlap (31) carried out his "upper half" and "lower half" experiments having observers report their findings on upper, lower and entire and mixed upper and lower portions of photographs. From such evidence

It seems almost positive, if we accept evidence submitted by our experiments, that people do not have the ability to recognize emotional expressions in the faces of other people. Such scholars as Allport (1) Darwin (23) Fernberger (34) Goodenough (43) Guilford (45) Jenness (54) Kanner (51) Kellogg and Eagleson (58) Landis (63) Langfeld (64) and Sherman (94) state, in varying ways, that people do not have the ability to identify emotional responses in others. Most of these scholars base their opinions on studies of photographs and pictures and I submit that this is an inadequate test and insufficient evidence of the validity of such a claim. Experiments which have been carried on to date, honoring Gestalten, prove that judgment is considerably raised over an isolated picture-technic and that almost universally accurate responses are made to emotional experiences commensorate to observer's experiences or understanding. Nor do we hide (continued on [illegible])

Dunlap concluded that the mouth half plays a greater part in the determining factor upon the observer than do the eye muscles and environs. This information is interesting but it was done to determine ability to recognize emotions. Lightoller (69) is concerned with the action of various facial muscles with an idea of determining whether or not there is a specificity. Landshiell (74) challenges photograph technic in its old practice and would develop a new method of measuring facial reactions.

Some experiments have even suggested that the hand is the potent indicator of emotional responses. Roberts and Carmichael (89) used hand gesture pictures of an experienced actor and concluded this was as satisfactory as the judgment of facial expression. This study is another method of arriving at the conclusion that emotions may best be studied for any study of observation when the Gestalt is evident. The upper portion of the face, the lower portion, the arms and hands, the torso and legs, all form integral units in the totality of emotional expression--the stimulus, response, environment and observer. Change anyone element and you have a new Gestalt. Fernberger, Landis and Sherman all conclude that persons tend to indetify emotional expressions from an understanding of the various stimuli (that is, the environment in which the responses occur) rather than depend upon the actual facial expressions themselves.

The Murphys (77) conclude their study in this

manner. "Actually we probably do size up one another's emotions with fair success when the emotion is great. We have learned to designate a series of changes--facial, respiration, postural, etc--as a characteristic of fear, and if a person shows them all at once, ( ) we are reasonably sure that he is afraid----We expect a good actor as a matter of course to make Macbeth's terror or Cyrano's pride evident at a glance, through the studied magnification of a group of changes rather than through the mere reproduction of an isolated element." The Murphy's regret, with us, that there is no adequate study which present emotions in their total patterns of response.

The element of Time is a very important factor in emotion technic. Sometimes we have to "work up" a situation in a play. A situation which is a climax taking five to twenty minutes to achieve— an emotional response that reaches to the very roots of the affective lives of the audience. Could one picture reveal such an emotion? Is there much power, merely to look at a picture of Richelieu defying the king, if the picture contains all you know of the situation?

Some emotions "live" but seconds and have to receive an additional ~~second~~ stimulus—this stimulus-applying gradually ~~closes~~ to get a full emotional response--therein comes the art of the actor who can "hold" the potrayal of emotion long enough for dramatic purposes--often longer

than a life situation could demand. Many pictures (and this is important in the study of emotion-photograph) have been taken at the "fag end " of an emotion and do not truly represent even a real-life situation. Some emotions can exist minutes with but one stimulus, others survive for hours and accumulate. Time is a most important element in the analysis of any Gestalt.

For years we have watched the evolution of the moving-picture technic. It has been a gradual development of applicable knowledge toward the presentation of Gestalt technic. I have been watching this technic since 1927. The greatest change in picture ~~technic~~ direction has come in the ability to keep the whole scene continually in mind. The constant change on the screen from one single face to the other has generally given way to a photographic presentation of showing the principal in an adequate environment. The first great picture, within my observation, to really apply Gestalt technic was "The Miracle Man" as staged by George Melford. In this, every picture and scene was a revelation of what had gone before, what acutally was and an anticipation of something to follow. Environment in all its ramifications was made an integral part of each emotional response. "The Birth of a Nation", directed by David W. Griffith marked another epochal advance. Environment in its most elemental nature was constantly kept in evidence and the individual,

as in life, but thread his troubled way. Face pictures were minimized and body responses in group relations were decidedly [illegible]. Gestalt had found its importance to motion picture technique and individual photography was doomed to a much lesser import.

In the more recent pictures, we no longer find a face occupying the entire screen. To briefly present a technique for the observation of a picture show, I present a simple method which any student can apply. Take for instance, the saucy, entertaining piece called "Escapade", now current. The parts are taken by Wm. Powell, Louise Raines, Frank Morgan, Virginia Bruce, Louise Closser Hale, and others. With a book and pencil we list the types of scenes as they progress, noting all the major transitions. In this picture, not once is the environment of the hall, room or out-of-doors absent. Always, it is conspicuously evident where the person is. Place is a very important part of any picture-- and life--Gestalt. Further, there is no picture of a person less than three quarters, that is, from hips up, inclusive of arms and most always the hands. When one person is presented as a "closeup" the person last affecting the subject of intimate view is somewhere or somehow made a portion of the surroundings, though often inconspicuous. In other words, the old screen-sized "close-up" with [illegible] background has been replaced by the three-quarter person close-up with necessary accompanying atmosphere back-ground. Emotions can be interpreted by a heterogenous public in a manner they can understand. I believe that many subtle

emoti nal responses have been socialized and made tenable by picture technic that may have otherwise laid dormant or undeveloped in the average individual who has not had the privilege of attending the theatre.

The advent of sound and voice was a great aid in establishing Gestalt and helping to specify emotional reactions and identifications. In the picture analyzed below, music accompanied ~~by~~ was an integral part for more than half of the actual time consumed in presentation. Numerals represent the number of characters in a picture. 1 being one person; (G) means group or more than several people; (obj) means attention has been drawn to an object, such as a gun, a painting, a doorway or window, some article of the motivating environment; sometimes a view of a bedroom or dining room is given (S) with no people in sight, but voice or voices are heard (v) So the modern picture producers are utilizing every known device to augment possibilities of a catholic audience better to understand and enjoy their products.

"Escapade" has a flowing sequence viz: (reading left to right) g, 1&g, 5&g, 1&g, g, 2&g,3,3, 2 g, 3,2,3,3,2,2,4&g, 2,g,2,1,g,5&g,4,4,g,2,2&g,2,2,g,2,g,,,2,2,obj, 1,2,2,2,1,2, 1&g,3,3,3,2,2,1,3,3,2,1,1,3,1,2,obj,2,1,1,2,1,1,1,2,4&g,2&g,3&g S,s,1,obj,1,1,2,1,1,obj,1,(he could continue in this manner) lady, man, lady, man, lady, both,lady, both, both and g, both and one, both and another, both and g, etc. (We here pick up first method to conserve space)3,4,2,obj,2,1,2,1, obj,1,obj,1,1,1,1,1,1,1,1,1,g,1&g,2&g,2&g,5&g,2&g,2,2,1,2,

1,

1,1,2,2,2&g,1,1,s,1,2,g,1,1,1,obj,1,1,1,3,1,1,1,obj,2,s,
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2,2,2,1,2,1,2,1&g,1,2,1 obj,2,g,g,g, 1&obj,3,3,2,1 g,g,2,1,
5,1,2,1,1,2,1,1,s,1,obj,1,1,1,1,3,1,s,1,2,2,2,1&s,2,1,1,1,
1,1,1,1 s,1,1,2,1,1,1,1&s,1,1,1,1,2,1,2,2,2,2,2,1,2,1,1,1,
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2,2,2,2,2,2,2,g,g,2,obj,3,1,3,1,1,2,1&obj,1,1,obj,1,1 2,g,
1&g,1,2,2,2,1,2,2,2,1,2,2,g,3,g,obj,2,1,1,2,1,g,g,1&g,2,2,2,
2,2,2,s2. making a total of 600 different ~~acts~~ for the picture. Out of the 600 changes necessary to present "Escapade" the following observations are pertinent; some 255pictures are singles, i.e. a picture of Powell would follow by a picture of Raynes or reverse order and a picture of Morgan would follow with a picture of Powell, etc. With a constant, connected background to tie-up bodily and facial expressions the picture is "kept alive". It was necessary to build the

picture up from group scenes to the individual. Nineteen specific scenes were shown before one person dominated the film and it was fifteen more scene and group shots before one person absorbed the picture again/. The audience is now ready for individual interest. Note how often the director is obliged to throw in groups, objects, scenes and additional people to keep the picture "alive", despite the excellence of the actors to carry the scene. Many of the "double" scenes merely represent one person listening while the other is conversing. In one instance several changes are made before the other person talks--such changes being necessary to keep the Gestalt patent.

One element cannot too long dominate a Gestalt without diverting its importance from the fluent whole. A mountain is a mountain until you start examining a rock and then the entire configuration has changed; you are conscious of quartz. Picture directors of the more intelligent type have been working on the continuity problem for years, without always knowing the specific way of realizing their ambitions.

That people <u>do</u> recognize emotional responses in a very definite universality is no doubt due to the insistent and persistent manner actors have of showing a specific situation in a very patternized manner, and that these patterns become more easily effective as education advances is chiefly due to the building-up process of revealing emotion in all its stimulus--response--environment-processes. Often the response is fully anticipated before the actual denouement is possible.

Further deductions of interest could be drawn from the studies already made of moving pictures. Many a star would receive a severe shock to his vanity if he actually knew his relation to the picture Gestalt. He would conclude, if he were honest, that his importance has been greatly exaggerated.

SUMMARY

From the studies made of emotional responses and our abilities to recognize them, I deduce the following conclusions:

1) There have been sufficient studies made of emotions to formulate definite conclusions.

2) Darwin's postulations in his "Emotions in Man and Animals" has had a very determining effect upon subsequent studies and focussed attention upon photograph, model, and sketch technic.

3) The controversy, whether emotions are innate or acquired, seems fairly well determined that the substance of emotion is innate but the major pattern-responses are acquired.

4) Emotions may be controlled.

5) Stage technic has been a contributing factor in keeping alive the discussion of emotions; whether or not an actor "feels" the part has been a source of considerable controversy. Greatest actors achieve thru conscious technic.

6) Animals and man seem equally efficient in the expressing of the unpleasant emotions, but variations in the expression of pleasant emotion is given to man only.

7) Untrained actors cannot produce the various emotions "at will", but have to learn how to "express" them.

8) All of Darwin's proposals for the study of emotions have been carried out, some to greater extent than others. The easiest proposal has received by far the greatest attention.

9) Photograph-technic is the poorest yet developed for the study and recognition of emotions. Errors, irrational premises, false conclusions, and lack of harmony in establishing any consistent technic depreciate most of the values of these studies.

10) The recognition of emotion is dependent upon a Gestalt presentation; any study of emotion that does not submit stimulus-response-environment-observer bases is inadequate, unreliable, segmented, and unproductive of meritorious results.

11) Emotions are often best understood from the stimulus and environment, and photograph-picture technic ignore both of these important elements of the Gestalt

12) The various lists purporting to show ease of identification is covered in the challenge of conclusion nine, being unreliable in nature because of faulty technic.

13) The studies made of parts of the face which are most efficient in revealing emotion are interesting, but further reveal the necessity of studying emotions in Gestalt. The same is true of manual and torso studies.

14) Emotions cannot always be comprehended without the element of Time being carefully considered.

15) The evolution of the moving-picture technic is prima facie evidence of the importance of Gestalt in presenting pictures for the purpose of proper audience-recognition.

16) There is striking evidence that the theatre and the moving pictures have been of prime importance in establishing and making more easy of comprehension many of the complex emotion-situations and patterns, and will further help to standardize their universal significance.

17) Any study for the expression or recognition of emotion will have practical value and social acceptance only when its Gestalt has been honored and understood, not only by the public, but by students and teachers in the various fields involved.

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accurately judged by its facial expression alone?
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Judgment of Facial Expression of Emotion in the Chimpanzee
from Laboratory of Comparative Ory - Columbia Univ
John P. Foley, Jr. (Jnl of Social Psychology Feb 1975 Vol VI 2 pp 31-67

Emotional reactions most complex
in man + infrahuman primates —

The importance of the ability to recognize facial expression of emotion is well affirmed by both applied + social psychology

Two major problems (1) the facial or other emotional expression itself
(2) the judgment of such an expression

Nearly all experimental work in this field has dealt with human judgment of human expression. Rarely has the comparative approach, initiated by Darwin, not been applied

1667. LeBrun, French painter, pub his "Conferences on the expression of emotion

1774-1782 Dutch anatomist, Camper, delivered "The Dissertation"
Early workers - J. Müller, physiologist, said expression of emotion is completely inexplicable

1806! Sir Chas Bell, pub. "Anatomy - Philosophy of Expression"
put study on scientific basis
Henle - made systematic study of facial musculature during emotional reactions
Lavater, Burgess, Moreau contemporaries

1862 - Duchenne of Boulogne - attempt to analyze facial expression electrically - he galvanized certain

facial muscles of an old man whose skin was hypersensitive or anaesthetic, & produced various facial expressions which were photographed & reproduced enlarged. He ascribed a specific expressive function to each muscle, the isolated contraction of which prod. definite furrows on the skin. "The contraction of a single muscle often suffices to express a "passion"; also he said every emotion has its own specific, precise & unique local modification. Frontal - muscle of attention; upper orbicular of the lips the muscle of reflection; the pyramidal (inter - super ciliary) expressed threats; the great zygomatic, laughter; the lesser zygomatic, weeping; triangular muscles of lips, disdain - Duchenne considered these emotional gesture divinely instituted." This physiognomic language once created, it was sufficient, in order to render it universal & immutable, to give every human being the instinctive faculty of always expressing his feelings by the contraction of the same muscles. Dumas in L'Expression des émotions" (Rev. Phil. 1922, 47, 32-72, 235-258 refutes this specificity

Mosso contended that the quantity of stimulation rather than quality, determines the expression. Worked with electric current on dogs — if electric current gradually

Facial Expression of Emot. in Chicago

increased, expression gradually changed from mimicry of attention to that of anger, etc.

1865 - Gratiolet, French anatomist, attempted to develop a "sympathetic" or "symbolic" theory of facial expression.

Mimetic theory of Wundt, largely accepted by Ribot others.

1859 - Piderit studied "geometry" of expression made plaster head, parts of which might be experimentally interchanged to produce a wide variety of facial expressions. Piderit's diagrams used & modified by Bring, Tichenor, Frappe, Guilford, Hughes & TV Moore

All early workers, except Spencer (Prin. of Psy. NY Appleton 1910, Vol 2, 539-557) regarded each species of animal as distinct from all the rest, & made no attempt to study the evolution of facial expression. Bell maintained that many of the facial muscles were "purely instrumental in expression." Darwin held that distinct uses, independent of expression, can be assigned with much probability for almost all the facial muscles". Bell proposed a sharp dichotomy betw. man & lower animals that their faces "seem chiefly capable of expressing rage & fear" Darwin says dog better than man expresses

loss of humility by external signs.

1830 - Owen showed that orang & other anthropoids possess same facial muscles as man

1871 - Macalister describes facial muscles of Chimpanzee

These studies gave experimental support of the evolutionary or comparative view of facial expression which culminated in the Darwin theory (rather than the man-beast dichotomy)

1873 - Darwin in great book "E in man & animals" answered questions. why & how a given emotion is correlated with a given facial expression - Darwin gave us the (1) evolutionary approach in study of e. (2) detailed description of each of the various emotions - (3) exposition of so-called general laws of expression

(a) serviceable associated habits.

(b) antithesis

(c) direct action of the nervous sys.

Theory has to do with evolution, that structure & habits of all animals have been gradually evolved (Raising of upper teeth in snarl, etc)

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Darwin proposed certain methods of study better to understand emotions (1)

(1) observation of infants
(2) " " insane
(3) " " photographs, models electrically activated facial muscles
(4) observation of painting, sculpture & other works of art
(5) obs. of the diff. races of man
(6) obs. of emotional expression in animals

To test a conclusion — "test whether the same general principles can be applied with satisfactory results, both to man & lower animals."

(1) Infants — Blanton, Bühler, Cooley, Gesell, McJones, McMoore, Perez, Pryor, Sherman, RW Washburn & Watson

(2) Insane — but few used this

(3) Photographs, etc —
Rudolph, most complete repertory 680 states
Feleky — faithful picture of self
Rockwick — amateur actress
Klein — similar
Grois-Wittman — 50 pictures of self

Piderit diagrams modified many ways

His technique (drawings photographs) most used ~~[illegible]~~.

Yerkes used monkeys & apes

Köhler - primate depts in emot. expression

Original photographs or drawing of facial reactions to emotional stimulation - Allport, Bell, Crile, Darwin, Duchenne, Duncan, Feleky, Frois-Wittm, Hughes, Klein, Kohts, Landis, TV Moore, Moss, Mosso, Piderit, Ruckmick, Rudolph, Schultze, Watson, Wundt, Yerkes

(4) Much to be done - Paintings, sculpture etc

(5) [Races, men] yet to be done

(6) Animals - growing in importance

Problems

(1) Innate vs acquired pattern of facial expression

Landis questions very existence of such patterns

Maintains that photographs & drawings used in such studies "are not true portraits of the faces of emotion but are rather pictures of the socialized & to a large extent conventionalized reactions which are used as supplementary language mechanisms" Landis thinks recog. emotion is acquired.

Fac. Expression

(4)

The recognition of judgment of overt actions (P.D.)

Most of earlier workers regarded this ability as innate, such as Bain, Darwin, Lemoine

Cooley & Landis hold opp. view; most evidence now against this innate ability. Bühler, Dashiell, Figueroa, Gates, Hetzer & Tudor-Hart, Kellogg & Eagleson have found levels of recognition, the responses to certain facial patterns being acquired during definite stages of the developmental cycle. Gates, especially, found that the ability to interpret facial expression increases with chron. age of child, even when intelligence is held constant & others proved this also.

Effect of training on the recognition of emotional expression

Allport, Guilford, Jenness all worked with this. Guilford that while there may be general intrinsic differences in sensitivity & in the ability to learn facial expressions, the wide indiv. differences in this respect are due to differences in training & practice in reacting to the expressive criteria. (P.D.)

Effect of suggesting names in the judgment of emotional expression. - Such suggestions influenced even early investigators, until their presence was recognized.

Langfeld, Jordan & Fernberger, Fernberger conclude suggestion by name greatly expected judgment.

Prevalence & range of ability to recognize facial expressions

Many report low average incidence of such ability with wide individual differences - such as Allport, Boring & Titchener, Buzby, Darwin, Duchenne, Fernberger, Goodenough, Guilford, Jordan & Fernberger, Jenness, Kanner, Kellogg, Eagleson, Langfeld, Schultze, Sherman, & Stratton. Experiments refute the ~~data~~ popular notion that human beings are able to recognize & identify emotional expressions in faces of other humans.

Landis concludes that the results were approx what might have been expected by chance alone.

Problems of sex differences in the ability to recognize facial expressions - yield conflicting results. Allport, Fernberger, Gates, & Guilford show no sex differences.

Buzby, Jenness & Kellogg & Eagleson found the means & medians for the women to be slightly higher than those for the men.

Kanner found men superior.

Jenness concludes "the net results of experiments seem to indicate that women slightly excel men as judges of facial exp. of em

(5)

The relationship betw. ability to judge facial expression + "social intelligence"

Moss & colleagues in the George Washington Univ. Social Intelligence test assumed "that the ability to estimate facial expression from photographs was one integral part of "social intelligence"

Lersch, & Nony accept this from their studies.

Relative Identifiability of various facial expressions

Emotions listed in decreasing order of frequency of correct identification

Allport: laughter, bodily pain, fear (horror), distrust (hate) amazement, anger, doubt, disgust

Gates: (children) - laughter, scorn, fear, anger, pain surprise, scorn

(adults) laughter, scorn, fear, anger, pain surprise

Jenness: amazement, laughter, bodily pain, anger distrust, disgust (scorn) fear (horror) doubt

Kanner: surprise, fear, breathless interest, contempt, horror, determination, disgust, sneer, hate, despair, pain, shame rage, sympathy, suspicion, pity, interest justified anger (laughter not used)

Langfeld: laughter, amazement, bodily pain, hate (aversion) fear, disgust, doubt, anger

Reeckwick: primary emotions (love, hate, joy, sorrow) better than secondary (repulsiveness, surprise, etc. distrust, defiance

Buzby & Jarden & Fernberger - using Boring & Titchener model: positive for horrified, disdainful, disgusted & bewildered faces negative for angry & dismayed faces.

#(93) It should be pointed out that various factors, such as use of widely different photographs & experimental procedures, makes analytical comparison impossible. Jeanness concludes "it is significant, however, that laughter stands out above the other expressions as the most readily indentified pattern. Further generalization will have to await the development of better & more uniform experimental techniques than those available at present"

---

(6)

Which features contribute most to facial patterns of expression?

Buzby - says upper part of face was most important for correct identification, altho bulk of experiment favors lower half, as per Boring & Titchener, Dunlap, Ruckmick & Wundt.

Wundt held mouth the most important element

Dunlap & also, but having subject fit the lower half of one photograph to the upper half of other

× Frois - Wittmann, advocated a "gestalt" view, that the significance of a particular muscular involvement is not constant, but relative to the rest of the pattern

Irwin used series of diagrammatic faces

! Roberts & Carmichael used 25 photos of experienced actor who posed only hands & wrists (Roberts Sa & Carmichael ⊥ The Judgment of manual expression Abstract, Prog. Amer. Psy Assn 1934, 15)

as satisfactory to adjudge as facial expression

Methods used in identification of facial expression

Allport - average ability of subjects increased after short period of training with table of synopsis of facial expressions; gain thru training was inversely proportional to original ability

~~[illegible]~~

Guilford - by experimentally controlling the judgment time, i.e., long or short, the experimenter could favor the "analytical" or the "unanalytical" judges

Langfeld: mostly sympathetically imitated the expressions portrayed in pictures, i.e., sympathetic responses

Ruckmick: visualizing gestures & postures of the body accompanying pictures of the face; imagining events or stimuli which might have brought on the expression; hearing words spoken, recalling analogous situations from their own experience; analyzing the experience impersonally & objectively

Sherman, Fernberger, Landis - persons tend to identify expressions from knowledge of the stimuli preceding them, or of the situations in which the responses occur, rather than on the basis of the facial pattern themselves

Summary

1. An examination of Landis' experiment on facial expression reveals an error in statistical procedure which invalidates his conclusions.

2. A correlational analysis of Landis' data was made to discover whether there were any facial reactions specific to stimulus situations or to subject's reports.

3. The intercorrelations indicate that facial expressions in diff. circumstances have some common features & some which are peculiar to the situation at hand.

4. There may be a limited number of typical facial reaction patterns. But another possibility is suggested — that there is an indefinitely large no. of facial expressions each differing but slightly from its nearest kin.

5. Further analysis indicated which situations and reports had the most divergent expressions, in this experiment & which muscles had greater degrees of specificity in these situations.

Landis' read above & comments accordingly:

1. Criticism of original statistical criterion justified
2 & 3 Landis' explains faults of our lectures
4. The chief conclusion of the present paper, that the

During response a photograph of subject's [illegible]
subject's report taken after each reaction, [illegible]
compared with subj. at rest

Dr Landis findings are not accurately based

"Since the figures show that there are differences in facial expression corresponding to the stimulus situation – to make reports of the subjects, it may be possible to eliminate the distinction Landis makes between "natural" facial response & the "socialized" facial response. In order to reconcile his conclusions with the recognized ability of people to interpret posed sanctions, Landis suggests that there is a socially conditioned language of emotional expressions which is brought into play when the subject intends to portray some feeling. Since these are diff. "natural" expressions, it may be that the intentional expressions have somewhat the same characteristics. Perhaps all expression must be regarded as socially conditioned to some extent, or none of them so conditioned"

Havas R C - Indiana Univ.

Specificity of Facial Expression

Jnl. of Gen Psy, 1934, 10, 42-53

Landis technique outlined - [illegible] the subject [illegible] the regions of the principal muscles [illegible] groups (Landis C - [illegible] Jnl. Comp. Psy. 1924, 4, [illegible]-509)

Series of 17 emotional stimuli

1. Pop. music - three gay records
2. Technical music - violin, solo records
3. No Bibl. - Lake 8 - 18-49
4. Falsehood
4. [illegible]
5. Ammonia - under label "Syrup of [illegible]"
6. Shot - firecracker
7. Faux pas - reading of subjects acct. of social error
9. [illegible]
10. [illegible] multiplication with [illegible]
11. Pornographic picture
12. Photographs of [illegible] models
13. Sex case histories read by subject from Havelock Ellis
14. [illegible] of [illegible] in [illegible] receiving shock
15. Decapitating live rat
16. [illegible] multiplication with electric shock distraction
17. [illegible] other stimuli followed by announcement [illegible]

P. E. Pardon

Speaking of Plants

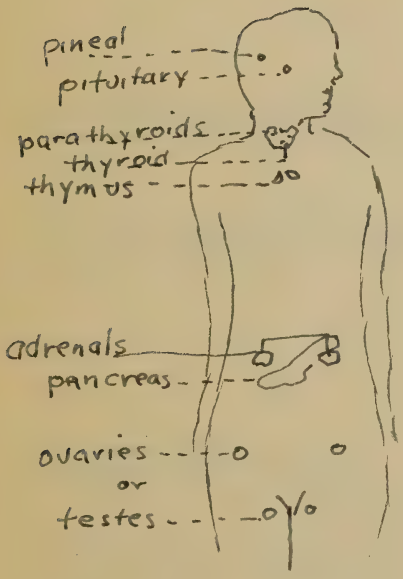
Poetry and its Effect on Me

I sing of brooks, of blossoms, birds and bowers,
Of April, May, of June, and July flowers;

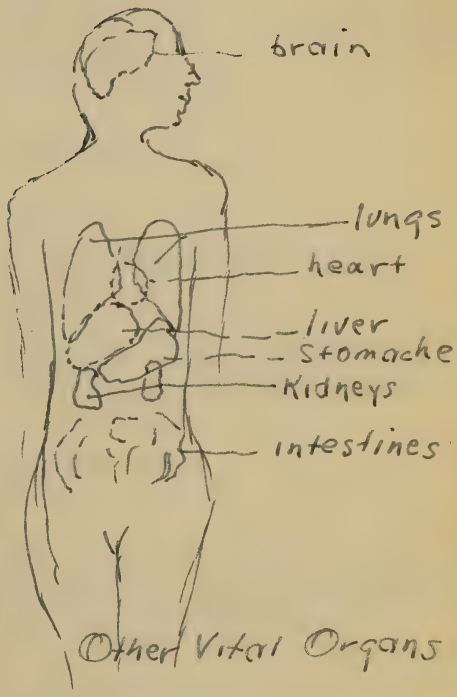
Speaking of Glands

Chap. in: "The Advance of Science"
Ed. by Watson Davis
Dir. Science Service, Wash. D.C.
Doubleday Doran & Co.
1934, N.Y.

Chap 22 - pp. 246 - 264



Glands



Other Vital Organs

GLANDS AND THEIR HARMONES

Glands	Harmones
Pituitary--"Master Gland." Hangs from brainin hollow of protecting bone in center of head.	Hind Lobe (Posterior). pituitrin Pitocin Pitressin Antidiuretic Probable one or two more other harmones. Front Lobe (Anterior) Growth stimulating; one or more sex-stimulating. Diabetogenic — Probable but not completely accepted yet Thyrotropic Lactogenic Adrenalotropic
Thyroid--"Pace Setter" U-shaped gland in fron of neck.	Thyroxine
Adrenals (suprarenals) 2 crooked-hat-shaped glands, atop each kidney.	Medulla ((nner part) Epinephrine (adrenalin) Cortex (outer part or rind) Cortin Probably a sex stimulating harmone Probably a loactation harmone Probably a blood pressure-raising harmone.
Parathyroids 4 grain-of-wheat-sized glands attached to the thyroid.	Parathormone
Pineal--"Seat of the Soul" according to Descartes. Cone shaped gland in the head.	Possibly secretes a harmone regulating bodily development and onset of puberty.
Thymus. Located in the chest	Function unknown; enlarged thymus in a child known to be dangerous but if detected may be successfully treated.
Pancreas	Islands of Langerhans Insulin. Vagotropic harmone.
Ovaries	Graafian follicles. Theelin Corpora lutea.

GLANDS AND THEIR HARMONES
(cont.)

Testes.	Progestin Relaxin
	Androtin Inhibin. (Probably)
Placenta	Emmenin.
Stomach.	Gastrin.
Small intestines	Secretin. Cholecystokinin.

TABLE OF HARMONES

INSULIN

Secreted by the eslands of Langerhams in the pancreas.

Controls the body's use of carbohydrates (sugar and starches) in foods; lack of insulin results in deabetes, whi h may be relieved by regular, measured doses of the harmone; too much insulin causes convulsions and results in a newly obser ved disease known as the "hungry disease" (because excessive hunger is a prominent symptom) and also as hyperinsulinism, relieved by increasing the carbohydrate content of the diet and also by surgical removal of part of the pancreas.

Discovered in 1921 by Dr. F. G. Ganting and C. H. Best working in the laboratory of Prof. J. J. R. Racleod at the University of Toronto; preparation and refinement of an extract for practical use accomplished with aid of Dr. B. Collip, now Professor and biochemistry at McGill university.

Isolated in pure crystalline form by Dr. J. J. Abel, Johns Hopkins university , 1927.

CORTIN

Secreted by the cortex of the adrenal or suprarenal glands.

Necessary to life; relieves symptoms of Addison's disease and prolongs lives of patients, but must be continued throughout the patients life; said to control the body's utilization of sugar, to maintain the normal circulating volume of fluid in the blood vessels, to be necessary for the proper functioning of all body tissues, to help the body utilize vitamins C. and B, and to play a role in disease resistance.

Discovered in 1930 by three groups of investigators at different laboratories; Prof. Frank A. Hartmann of Buffalo; Professors J. M. Ragoff and G. N. Stewart of Cleveland; and Professor W. W. Swingle and Dr. J. J. Pfiffner of Princeton.

Isolated in very potent, possible pure, crystalline form in 1932-33 by Dr. A. Grollman and W. M. Firor, Johns Hopkins university.

EPINEPHRINE (adrenalin)

Secreted by the medulla of the adrenal or suprarenal glands.

Slows and strengthens the heartbeat and increases blood pressure; increases output of sugar in kidney excretion; in times of stress, in fear, anger, or pain, acts through the sympathetic nervous system to mobolize the physiologic forces fo the body to meet the emergency; increases output of blood sugar from liver raises content of sugar in blood with consequent loss of sugar through kidneys.

Discovered by Dr. George Oliver and Sir Edward Sharpey-Schafer University College., London, in 1894; extracted by Prof. John J. Abel, in 1898, isolated in crystalline form by Dr. T. B. Aldrich and simultaneously.

by the Japanese investigator, Jokichi Takamine, in 1902.
Synthesized by Dr. Franz Stolz, Germany, 1903-1904. and by Dr. H. D. Dakin, England, 1905.
Chemical name is dihydroxymethylaminoethylolbenzene; chemical formula is $C_9 H_{13} O_3 N$.

THYROXINE

Secreted by the thyroid gland.
Regulates the processes of oxidation in the body; deficiency of thyrozine slows the body and mind, resulting in myxedema in adults, cretinism and idiocy in infants, also in one type of dwarfism; excess thyroxine increases speech of vital activity, resulting in exophthalmic goiter or Graves' disease.
Discovered and isolated by Dr. E. C. Kendall, Mayo clinic, in 1916.
Synthesized by Dr. C. R. Harington, University of London, in 1926.
Chemically it is a tetra-iodo substituted derivative of the p-hydroxyphenyl ether of tyrosine; formula is $C_{15}H_{11} O_4 NI_4$

PARATHORMONE

Secreted by the parathyroid glands.
Regulates calcium metabolism and thus influences bone development; deficiency of this harmone results in the convulsive condition known as tetany; excess results in fa ulty bone formation with softening of the bones and resulting deformities, the condition being known as hyperparathyroidism or osteitis fibrosa cystica.
Discovered in 1923 and 1924 independently and almost simultaneously by Dr. J. B. Collip, Dr. A. M. Hanson, Faribault, Minn., and Dr. Louis Berman of New York.

PITUITRIN

Secreted by the hind or posterior lobe of the pituitary gland.
Causes contraction of smooth muscle tissues, including the heart, thus increasing blood pressure, intestinal motor functions and uterine contractions; plays a role in determining color af skin and in regulation of fat, carbohydrate, and water metabolism; some of these effects are probably due to other pituitary harmones that pituitrin.
Discovered by Dr. George Oliver and Sir Edward Sharpey-Schafer in 1895.

GROWTH HARMONE

Discovered by Dr. Herbert M. Evans, University of California, in 1921.
Stimulates growth.

PROLAN (sex harmone)

Secreted by front or anterior lobe of pituitary gland.

Discovered by Prof. Philip E. Smith and Prof. E. T. Engle College of Physicians and surgeons, New York, and almost simultaneously, by Drs. B. Zondek and S. Ascheim of Germany in 1927. presence of such a harmone suggested by work of Dr. C. Foa of Italy about 1900 and Drs. H. M. Evans and J. A. Long of the University of California in 1921.

Probably two and maybe more sex harmones from this gland one of them, Prolan A, believed to cause the ovary to produce theelin, Prolan B. believed to stimulate production of progestion by ovaries previously affected by Prolan A, but the duality of A and B is still unsettled; Prolan also has stumulating effect of the male sex glands.

THYROTROPIC

Secreted by anterior pituitary.

Presence suggested by early investigators; extracted by Dr. J. B. Collip and associated in 1933.

Causes hyperthyroidism and exophthalmic goiter.

DIABETOGENIC

Secreted by anterior lobe of pituitary.

Discovered by a number of workers in 1932-33; first suggested by Dr. B. A. Houssay of Buenos Aires.

Influences carbohydrate metabolism; can produce diabetes in dogs or prevent it in dogs whose pancreas has been removed.

PROLACTIN (lactogenic)

Secreted by anterior lobe of pituitary.

Discovered by Dr. Oscar Riddle, Carnegie Institution at Cold Spring Harbor, New York, 1932.

Stimulates Milk secretion.

ADRENALOTROPIC

Secreted by anterior lobe of pituitary.

Discovered by Prof. Philip E. Smith.

Stimulates cortex of adrenal glands.

ANDROTIN

Secreted by the male sex glands (testes)

Extracted from the sex glands of bulls by Profs. Carl R. Moore and F. C. Koch, University of Chicago, in 1927.

Isolated in pure form by Dr. Adolf Butenandt, University of Gotingen, in 1929.

Essential to the normal development of both primary and secondary sex characteristics.

Chemical formula $C_{16}H_{28}O_2$

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THEELIN

Produced by graafian follicles of the ovaries; also, perhaps by the placenta.

Discovered in follicular fluid by Drs. Edgar Allen and Edward A. Doisy at Washington University, St. Louis, in 1923.

Obtained in pure crystalline form by Dr. Doisy and associates at St. Louis University in 1929.

Maintains normal sexual rhythm; essential to formation of secondary female characteristics.

Chemical formula is $C_{18}H_{22}O_9$.

PROGESTIN

Produced by ovaries (corpora lutea)

First extracted by Prof. George W. Corner, Rochester University, in 1930.

Besides secondary sex-stimulating role, prepares the uterus for reception of of the fertilized egg cell and pregnancy.

RELAXIN.

Produced by ovaries, (corpora lutea)

Discovered by Prof. F. L. Hisaw, of the University of Wisconsin, in 1929-30.

Said to promote relaxation of the pelvic ligaments as a preparation for childbirth.

EMMENIN

Produced by the placenta.

Discovered by Dr. J. B. Collip in 1931.

Stimulates the activity of the ovaries.

SYMPATHIN

Secreted at endings of sympathetic nerves in involuntary muscles (may be two hormones instead of one)

Discovered by Prof. Walter B. Cannon, Harvard University in 1931.

Produces effects very similar to epinerphrine.

SECRETIN

Produced in the intestines by the action of acid on proscecretin.

Discovered by Sir William Bayliss and Dr. E. H. Starling of London in 1907.

Stimulates the pancreas to produce its digestive juices.

CHOLECYSTOKININ (gall bladder mover)

Produced by the intestines.

Discovered by Dr. A. C. Ivy, Northwestern University, 1928

Causes contractinn of the gall bladder.

GASTRIN

Produced by the stomach

Discovered by Dr. J. S. Edkins of London in 1906.

Stimulates the production of gastric juice (the stomach's digestiv juice)

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Report
Speech 119

Mary Eleanor Kelly
July 8, 1930.

"The Expression Of The Emotions"

Antoinette M. Feleky
Teachers' College, Columbia University

*This article is the report of an Experiment In Judgment Of Expression. The purpose of which is to illustrate that certain facial expressions signify certain emotional states.

During a period of one year, several hundred photographs of the same individual were taken. The subject was conscious of the emotion she was endeavoring to portray, either by calling up the emotion itself, or by repeating words expressing the desired emotion.

One hundred reliable persons were presented with eighty-six of these photographs. Each photograph was numbered and each person received a sheet of paper upon which the photograph numbers were

*The Psychological Review, Vol. XXI, No. 1, (Jan. 1914,) pp. 33-41.

[illegible] means of [illegible]

written. Two other sheets of paper contained the names of one hundred and ten emotions.

The following were the directions which the subjects received:

"Read through quickly the list of words in order to refresh your memory with the names of the different emotions. Observe each photograph carefully, and write upon the sheet opposite the corresponding number, the name of the expression which the photograph suggests to you. If one word does not suffice to express the meaning add the necessary words."

In this article the facts in the case of twenty-four of the photographs are presented: (1) reproductions of the twenty-four photographs; (2) a statement of the stimulus which led to the face in each case; and, (3) a tabular form of the interpretations of each photograph is given. The words which occurred only once in the 2,411 judgments are omitted for brevity's sake.

The results give: "(1) means of deciding

how far certain defined facial expressions are interpreted each as the sign of a given emotion or complex of emotions; (2) and, in cases where the facial expressions are clearly significant, means of studying emotional expression and illustrating them before classes in psychology or dramatic art."

Below is a sample of the table given in the article. Where the same photograph is described by one judge by two terms each is counted as one half. By following down any column, the interpretation of any one of the photographs may be seen clearly. (The facts of # 01 are given). By reading the table horizontally one sees what different expressions may be accepted as significant of "disgust", "fear", etc. (The data on six emotions is given.)

	Smearing
Photograph	61
	.
Disgust	8
Repugnance	1
Dislike	2
	.
Loathing	2½
Aversion	2
Hatred	1
Sneering	33
Scorn	16
Contempt	19½
Disdain	7
Haughtiness	1
	.
Bitterness	1
	.
Defiance	1
	.
Hate	1
	96

	Modesty	Breathless Interest	Attention Intellectually	Attention to an Object	Suspicion	Interest in a Child	Agreeable Surprise	Pity	Determination	Righteous Anger	Horror	Physical Pain	Fear	Hate	Sympathy	Unfair	Rage	Vanity	Disgust	Sneering	Contempt	Laughter	Religious feeling	First Degree of Suspicion
Photograph	3	9	11	15	16	21	22	29	31	32	33	38	44	47	48	50	51	52	55	61	62	69	77	83
Disgust					2						1/2	2		12 1/2	1				36	8	6			1
Horror		2			3						35		9 1/2		1/2	1	16 1/2							
Physical Suffering					1						5	31 1/2			3		3							
Laughter									3													40		
Interest	4	1	15	22	1	23 1/2	1/2			1								4						1
Dared			2						1	1		1		1	1		5		2	1	4			

Psych. Review 1921 Vol. 28.

The Control of Another Person by Obscure Signs.

G. M. Stratton,
Univ. of Calif.

The experiments here reported were upon a young man, a Moravian recently come to San Francisco, known publicly as Eugen de Hubini.

An exhibition of his skill was first observed in private, where about a score of persons were present. There, for nearly two hours, under direction of the various guests, he performed feats whose general character was that commonly known as Muscle reading, but with an interesting variation. For while, during a brief time of "warming up," the subject held in his right hand the one end of a watch chain of which the other end was held in the left hand of his guide, — the chain hanging usually very slack between their hands, yet this chain was soon laid aside, and the procedure then was without even this mediate contact.

His success in finding things well hidden and in taking objects chosen in his absence and placing them in

strange positions also decided upon in his absence, - feats commonly performed by contact, - led to the present experiments under conditions more favorable to precise control and appraisal.

Throughout these tests a protocol was made from lots cast by the guide in private, of the particular action to which he was silently to urge the subject; and immediately after each trial there was recorded the subject's success or failure. And thus the guide was the only person who knew the precise choice of action determined by the lots. Particular attention was taken to avoid positions where any reflection of the guide might be seen by the subject.

The data of the experiments, brought together, are as follow:

No. of Experiments	Outcome Expected by Chance		Actual Outcome	
	Successes	Failures	Successes	Failures
120	44	76	71	49

The actual successes are thus seen to be about 1.7 times the number which would reasonably be expected were the subject relying upon pure guess-work.

3. The subject said repeatedly that if he could only bring himself to obey his first impulse his success would be greater. His belief was not supported by the facts. The movement finally approved by him is usually better than that with which he begins.

In seeking an explanation for his skill the subject made no claim to mind-reading in the sense that he could once and for all catch the thought of his guide and, without farther aid, go to the object of which his guide had thought. He needed, he said, to be assisted to the object as would a blind man; there must be by the guide a continual mental correction of his false movements and a corresponding assent and support to the movements that were right; his mind was receptive only to impulsions, and was, so far as possible, inattentive to what the guide might be betraying visibly or by sound; such things disturbed him. With his general audience, he several times requested that his guide cease giving certain visible or auditory signs that the subject was going in the right or wrong direction. When with the experimenter alone, the experiment now followed a more reliable method, he gave no appearance

of one alert to catch some sign by eye or ear; his eyes were wholly unfixtine; his manner, that of one receptive or dreamy rather than of one who sought to make the most of the externals of his opportunity.

And, farther, the experiments themselves bear out his own account, so far as he denies dependence upon any common or gross sensory signs. Although contact was of assistance to the subject, yet, even without contact, the guide's intention had an effect upon the subject's line of action.

As to what guides him when there is no contact, it would appear that Rubini is not dependent upon hearing. Certain of the experimenters had been confident that he was appreciably helped by the sound of the guide's breathing, and of the lag or alacrity of his footsteps in following, and that with the reduction of these clues there would be a marked reduction in his successes. If anything, there is an increase.

The aids which he had from sight were not of a character that would have sufficed for ordinary skill. The fact that the subject was unwilling to be blindfolded may be taken as an indication that he depends to some appreciable extent, even though subconsciously, upon visual cues. The experi

menters are not inclined to interpret this reluctance as casting doubt on the subject's bona fides. He has been a public exhibitor of his powers in Hungary, Holland and Paris; arriving from the Orient. He plans to give public exhibitions in America; he is, therefore, justly interested in showing his prowess in its success rather than its failure. His reluctance in regard to blindfolding stands in contrast to his readiness to exclude sounds, an operation which proved to be no check upon his successes. We may therefore assume that where he wanted without contact, visual cues of a highly elusive kind were of assistance. However, there must have been great sensitiveness and great delicacy of subconscious adjustment to give him the proportion of successes attained. The experimenters all assume that these successes depended upon sensory cues of some sort, and not upon an immediate influence of mind upon mind.

Supplementary Experiments

Later a series of experiments were conducted in the presence of only three people where ~~three more~~ extraordinary precautions against visual aids were taken, the following appears in summary:

Series without Contact	Outcomes to be Expected by Chance		Actual Outcomes	
	Successes	Failures	Successes	Failures
Without special Precautions against sight (70 trials)	31	39	45	25
With special Precautions against sight (60 trials)	18	42	19	41

These supplementary experiments, accordingly fortify the conclusions preceding. It was then felt that Rubini received visual aid from signs unintentionally given him by each of the guides - signs which indicated whether he was approaching or was going away from the right object. These signs were exceedingly obscure, rarely evident to the experimenters watching the guide. The hints seem to have come from fleeting glimpses of the guides changes of place and posture caught in the very margin of vision and perhaps without any conscious intention by the subject to notice or use them. Yet upon these, when touch was excluded, his truly remarkable power seems to depend.

From the summary it is clear that while Rubini can with sight and without the help of touch attain about one and a half times as many successes as chance would give, yet when all visual cues from his guide's behavior are excluded, these successes at once drop to the number expected by pure chance.

Although the number of the failures is nearly what we should expect by guessing, yet when we consider their individual character, they are not what would most probably arise by chance.

"The Expression of Emotions
In Voice and Body"
Submitted
To
T. Earle Pardee
By
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Term Paper
Psy. 1

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Outline

I Expression of Emotion
- A. Facial Expression
- B. Bodily Response
- C. Visceral Response
- D. Endocrine Action
- E. Nervous System

II Emotional Setting

III Emotional Details

IV Emotional Synthesizers

V Emotional Vibrations

"The Expression of Emotion In Voice and Body"

There have been three methods available for the experimental investigation of emotions: - (1) the study of the expressions which accompany, or are, the emotions, (2) the method of descriptive and introspective reports of the experiential phenomena of "mental life" which are characterized by feeling, and (3) the investigation of the action of the nervous system and of the endocrine glands.

The behavior of a human infant indicates that the recognition of emotional expression is not present at birth but develops very rapidly, as if there were some innate tendency awaiting only maturation and directional stimuli. Facially, the recognition of expression of emotions is clearly of an acquired

nature. This acquisition is of the nature of a language mechanism. The expression of emotions, so far as the facial expression is concerned are usually learned responses. Just as one learns to say "Oh," or "Ouch" in response to injury or surprise, so the expression accompanying the verbalization is usually a learned response.

The earliest systematic study of facial expression is that of physiognomy, which was in its original scientific sense a two-fold science: (1) a mode of discrimination or prediction of character by the outward appearance, and (2) a means of classifying forms and features. The classification of the relationships between facial expression and character is found in the earliest literature of the Greeks and Romans. The practice of physiognomy was

one of the first branches of intellectual interest through all the Dark and Middle Ages.

After the many centuries of speculation concerning the importance of facial expression as a criterion of emotion or character, Darwin, in 1873, announced three principles which he hoped would account for most, if not all, of the expressive gestures involuntarily used by man and the lower animals in emotions. These three principles are: (1) The principle of the serviceable associated habits. (2) The Principle of Antithesis. (3) The Principle of the Direct action of the Nervous System.

Wundt like Darwin has three principles of systematization. (1) The Principle of direct change in Innervation. (2) The principle of the Association of Analogous Emotions of similar feeling-tone which

mutually reinforce. (3) The Principle of the Connection of Movement with Ideas. Ideas.

James proposed the five following principles: (1) the weakened repetition of movements which formerly were of utility to the subject. (2) the principle reacting similarly to analogous feeling stimuli. (3) The principle of weakened repetition of movements which under other conditions were physiologically necessary effects. (4) The principle of the mechanically determined idiopathic effects of the stimulus. (5) The principle of the mechanical perpetuation of emotional reactions which may be called accidental as far as their origin goes.

Sir Charles Bell laid the foundations for the scientific investigation of facial expression when he published the first edition of his Anatomy and Philosophy of Expression in 1806. Bell developed

the notion that the expressive reactions of the face were based upon the anatomical relationships of the muscles or that expression was limited in its scope by the anatomical structure.

Frappa contends that facial expression may be reduced to three fundamental expressions:- astonishment, grief and joy. From these expressions he believed that one can synthetically build up most if not all, other human expressions.

The act of blushing or flushing is a distinctive facial reaction which enters into the physiology of expression. Blushing may be said to be a peculiar human trait since no animals show this type of reaction.

Both historically and individually the human race has a great trust in its ability to read and interpret facial expression. The historical treatment of expression is

that of physiognomy, the biological treatment, which grew out of the theory of evolution, particularly the Darwinian, attempts to demonstrate the evolution of mental traits. It must be distinctly understood that such reactions are social expressions and are of the same nature as expression in language or in any other acquired activity.

The work upon the interpretation of photographs which had been posed as expressions of emotions was initiated by Miss Feleky. She found that the expressions of disgust, suffering, and breathless interest were judged correctly more often than any others, while those of suspicion religion, anger, fear, hate, and rage were judged very poorly. Several years later Langfield tried a similar experiment making use of an artist's sketches of posed emotional expressions. He found that laughter could usually be interpreted

correctly, that fear and anger were confused, that surprise and suspicion were confused, and that the contempt-scorn group was judged more correctly than any other expression.

Bugby, using an adjustable "Piderit" model or caricature of a face found that only two per cent of the judgments of a group of 716 subjects agreed with the title of anger, while sixty-one per cent agreed with the title of horror. These two expressions represent the extremes on his scale of agreement.

Landis has conducted several experimental studies of facial expression. By taking pictures of the facial expression and by recording the blood pressure and respiratory rates it was found that there are marked individual variations in the expressive reactions so produced. It was interesting to note that the men in this experiment used more facial reactions than the women.

That each subject has two or three facial patterns which he uses in all situations and which constitute the vast majority of that individual's expressiveness is an interesting point bearing on a general theory of emotion. In general simple emotions or simple expressions were never found; they were always complex.

The experimental investigations of the facial expressions of emotions of the adult or the bodily activity of the infant indicate that there is no pattern of expression which may be said to characterize any situation or emotion of any one individual or group of individuals. Practically all of the current theories of emotion demand that we should find such patterns, if not in the voluntary musculature, then in the visceral responses of the individual.

The significance of variations in the vocal expression as concomitant

to, or part of, emotion is older phylogenetically than is facial expression. Darwin classifies most of the vocalizations of animals as emotional.

There are two varieties of expressive facial reactions which are certainly innate. No one has ventured to criticize the notion that laughter or crying were pattern responses. There are, according to Dumas, five major problems in connection with laughter. They are: the problem of the physiological mechanisms, the problem of the joyful laugh, the problem of the comic laugh, the problem of the connection between the mental state and its outward expression, and the problem of laughter as a social phenomenon.

According to Aristotle, laughter is due to the sudden feeling of triumph which comes with the sudden perception of a superiority in one, by comparison with the inferiority of others or our own former superiority.

With regard to the social aspect of laughter, Bunce calls attention to its contagious nature. We laugh far more easily in a group, than when alone. We sometimes laugh for the pure joy of laughing.

The question of tears involves four problems: - physiological, psychological, psycho-physiological, and social. Crying is essentially a breaking down of adaptive mechanisms which are no longer adequate to meet environmental conditions.

At this point one conclusion may be made, namely that the facial expression is but a more or less variable part of emotional experience. The particular character of the expression is, to the best of our present knowledge, dependent on the survival of primitive connections within the nervous system.

The question of the activity of the

entire body in effective experience is an exceedingly complicated one. Carr has pointed out that the bodily responses in emotion should be considered under three heads. (1) The act, which refers to those processes which constitute adaptation to the objective situation. (2) The emotion, which refers to those activities which increase effectiveness of the act, (3) the remaining processes which constitute the by-products of the emotion or act.

The most recent development in psychology, namely the Gestalt theory carries with it certain implications concerning emotional expression. This theory holds that emotional expressions are perceived as such, as totalities, and not in terms of the amount of muscular activity of the mouth, the wrinkling around the eyes, or in any other element analysed out of facial response.

Taking up the visceral responses

to emotions, it has been found by experiment that there is an increase in the blood volume of the periphery of the body during pleasantness and a decrease during unpleasantness. The findings from blood-pressure studies are as indeterminate as the findings of blood-volume changes when considered as expressions of emotion. A variable factor in the constitution of the blood is the presence of glycogen (blood sugar). Cannon has demonstrated that there is an increase of blood sugar during emotional stress.

In heart reactions there is a possibility that cardiac reactions might furnish some expressive pattern. However, the results of this study failed either to confirm or deny assumptions concerning the activity of the autonomic nervous system.

Considerable investigation has been directed toward the relationships between respiratory pattern as

respiratory function and feeling.

The findings concerning respiration as an expression of emotion may be summarized as follows: (1) Respiration does not vary directly with emotional excitement. (2) Certain respiratory patterns are diagnostic of certain situations (3) Simple pleasantness and unpleasantness are probably accompanied by respiratory changes which do not influence the content of the experience. (4) Respiration is undoubtedly a leading factor in emotion, but is not a differential expression of emotion.

The metabolic rate is a very doubtful expression of any mood or temperament. The alterations in metabolic rate are not to be considered as expressions of emotions but as concomitants of emotion. There are several suggested causes for the increase in metabolism during emotion: (1) an increase in the secretions of adrenalin or of thyroxin with consequent release of glycogen and carbon-dioxide

elimination; (2) an increased muscular tonicity or incomplete muscular relaxation of the voluntary muscles of the body; (3) relaxation of the bronchioles with consequent absorption of more oxygen; and (4) a greater metabolism of the central nervous system itself.

More experimental work is needed before one will be able to say with any degree of certainty which is the correct explanation or what is the proportion of the change which is due to anyone of the factors.

From all the studies of visceral reactions it will be noted that metabolism, gastro-intestinal activity, respiratory activity and circulatory activity are all intimately interconnected. The visceral responses are to the best of our present knowledge mediated over the autonomic nervous system or through the action of hormones acting directly

on the organs. The disturbance in emotion lacks pattern in the sense that pattern should be shown in the same way in all individuals. The visceral changes give a basis for emotion but are not the emotion or constant expression of it.

In taking up endocrine action in relation to emotions we find: — (1) The endocrine glands produce internal secretions which furnish the background or general tone of emotional experience. (2) In order that emotional experience may be considered normal, it is necessary that the interrelationship between all glands be well balanced. (3) There is no specific connection between any particular emotional experience or expression of emotion with any particular gland. (4) Adrenalin makes possible the excess output of energy in an emergency situation, while Thyroxin furnishes the background, persisting over a period of days or weeks.

(5) Interstitial secretions are necessary for the adequate expression of sexual passion.

In the role of the Nervous System in the Expression of Emotion, Lapicque, has developed a systematic explanation of neural activity based on the time-energy relations of the activity of functional tissue. He calls this peculiar property of living matter "chronaxie". The more intense the heterochronicity of the neural system, the more intense the unpleasantness of emotional experience. Pleasantness is to be regarded as the absence of unpleasantness.

Head has pointed out a distinction in cutaneous sensation quality which he terms protopathic and epicritic.

The problem of the nature of feeling is one which has long baffled physiologists and psychologists. A broader theory which is gaining

some attention at present depends on the fact that the autonomic nervous system contains sensory as well as motor fibers. Coordination is identified with perceptual pleasantness, and incoordination with unpleasantness.

If autonomic responses are to be identified with emotion and a reasonable case can be made for this assumption, then one would be correct in saying that the reflex is specific to emotion. The major objection to this claim is that it does violence to the usually accepted usage of the term emotion.

The term feeling has at least three accepted usages: (1) a term referring to the experience of pleasantness and unpleasantness. (2) a description of an experience which is less vivid than emotion and (3) the report of vaguely perceived sensations which do not have clear perceptual quality.

Feeling is marked by quality,

intensity, and duration, but lacks clearness.

Certain conclusions concerning feeling as an expression of emotion may be drawn: (1) Feeling is certainly not a simple, easily identified mental experience. (2) Feeling cannot be identified with any specific physiological occurrence or pattern of reactions. (3) Feeling may be either (a) the protopathic specific element of sensation, (b) facilitation or inhibition in neural activity, (c) presence or absence of pain, (d) presence of reactions governed by the autonomic nervous system, or (e) the energy balance of the organism at any particular time. (4) Psychologically, feeling, in the sense of pleasantness or unpleasantness appears as a unique experience but one which may be the product or by-product of many other experimental processes.

The expressions of feeling are more difficult to systematize than the expressions of emotions. Developments in

this field which are practically certain to occur within the next generation will profoundly modify all of our notion psychology and the behavior of the individual in relation to the group.

It is apparent that many of the expressions of emotion are innate. There are many expressions which do not fall into any purposeful classification, as, for instance laughter and crying. If certain expressions are mimetic of either past experiences of the individual or more particularly past experiences of the race, then we must have a type of neural functioning or an inheritance of modified nervous functioning which has not been hitherto described. It is suggest to say that the major expressions of emotions are physiological survivals of earlier biological relationships within the species, and that for the most part the expressions of the adult are the result of

learning or Training.

All emotions are found to affect the different parts of the body when they are expressed, but they vary to a great degree in different people, although the fundamental pattern is practically the same.

In taking up emotions, the setting plays a great part. By the Emotional setting is meant the author's character and philosophy of life, the author's mood and the special background.

Into every author's works creep the emotional tendencies of his life; that is incidents of his childhood and youth have much to do with molding his attitude. The words of the author and the way in which he writes those words give more meaning to the individual interpreting it as he understands the nature, the emotional attitude of the author.

We should be intellectually curious enough to want to know how an author gets on with his own soul; for an

an interpreter, we are going to try to enter into that soul and make it speak truth.

When a man can write in so many words that the interpreter has to be sure he has caught the right tone of the selection. To miss the mood which the author intended is indeed to miss a vital clue in the meaning.

The poet is supposed to break forth as a lark into song. Story writers presumably write because they cannot help it. The artistic urge is commonly regarded as its own excuse for being. It needs no defense or explanation. Accordingly most poems, stories, and dramatic episodes explain their right to exist solely by their intrinsic worth, as bits of art or interesting to stand on their sheer merit. To help the interpretation of the selection it is an advantage to know what special background that gave rise to the selections.

In our daily talk and conversation we have come to standardize certain

"tones" which are recognized, the world over, as having certain significances. For example, you can without fail detect anger or fear or hatred in the voice of a man whom you cannot see and whose words you do not specifically distinguish. The voice tells the story by the characteristic "tone" of the emotion expressed. Of these "tones" there are a great many; the author of this system has classified two hundred that he declares are distinctly ascertainable and distinguishable. These "tones" are common to the human race and are not affected greatly by different languages. They are a necessary part of human behavior, we all use them in our way or another.

Any interesting piece of literature is rich in color and the feeling tone of its details. Individual words can carry a wealth of memory, association, personal emotions, and general attractiveness; phrases can add charm, spice, and meaning while sentences can carry so heavy a load

as words and phrases. Many such details must be looked into before the reader is sure of profitable and delightful interpretation.

There are five important factors to be considered in interpreting the emotions set forth in a selection of literature. These are (1) Word connotations. The emotional meaning is found in your memories, your imagination - your heart. (2) Allusions. Literature worth interpreting is full of quoted phrases, sentences and references that possess special charm and sentiment for the well-read reader. The person who glides over such allusions without knowing their history and sentimental associations, is likely to pain auditors to whom these passages are cherished possessions. Even worse is to know what they are and not interpret them sympathetically. (3) The appeal of the image. When a writer uses a simile, a metaphor, a personification, or other figure of speech the reader must get the image or he has no opportunity to

carry the right emotional meaning. (4) Sense and sound also aid a person in getting the correct emotional response in the vocal expression. (5) Emotions are shown in empathy. Part of the psychology of sound and sense is that certain words and ideas do specific things to our ears alone but to our whole bodies. This is what is known as empathy, or the empathic reaction of the body towards. Clever manipulators of language can make us dance, skate, swim, fight and many such things.

It is easier to express the nature of thought than of emotion. Definiteness in emotional expression is not considered necessary by many. Among speakers the command of emotion is very inadequate. Many of them have practically no feeling.

One method of developing the power to express emotion definitely and truthfully is to secure genuineness and simplicity in transitions. There must be no pretense of feeling. The reader or speaker should especially avoid drifting.

When once emotion has arisen, it is supreme for the time, and only by securing definite thought can the current of feeling be controlled and directed into new channels.

Every emotion has one subtle characteristic. There must be such an imaginative conception of a situation as will awaken feeling, and such genuine artistic insight as will enable the reader or speaker or actor to express definitely this one characteristic.

Cultivated taste or artistic appreciation carefully distinguishes emotion in trajedy from melodrama, comedy from farce or burlesque.

Vocal expression is the direct language of emotion, according to Mr. Curry, which fact is quite in contrast to Madam Alberti's statement that the Bodily expression is the direct language of emotion.

In the expression of an emotion it is the imagination which chiefly acts as a stimulus to emotion, [illegible]

Sincerity is truthful feeling - vague, abstract or unimaginative thinking. Truthfulness of feeling, depends upon simplicity and repose. emotion cannot be forced nor can its expression be labored.

There must be no exaggeration or effort, The attention and interest to successive ideas must be genuine so that every transition will be truthful.

Very little has been written about the emotional vibrations and their effects upon the one experiencing the emotion, or the person or persons who come within the range of and are affected by these waves of feeling.

Emotional vibration is a reaction of the body to stimuli either from an external cause, or from an internal cause, as when the brain is stimulated to an emotional thought, through or from the subjective mind. Some authors say there is no thought without

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a corresponding emotional content. This stimulation comes primarily through one or more of the five senses. We may react immediately to this stimulation. This is called reflex action: we move before there is time for a definite thought process; then we have stimulation which causes the mind to act, sometimes quickly, sometimes slowly. In either case the vibration starts at the center, the subconscious, and moves outward to the extremities, causing every cell in the body to respond. These vibrations differ somewhat in form and wave-length, depending upon the emotion as well as upon the character of the person expressing the emotion.

A thought that does not vibrate through the whole body is not an emotional but an intellectual state; to receive a state of emotion without also receiving its organic state is

impossible, to change this into an artistic effect depends upon the actor, his knowledge, sensibilities, and pantomimic preparation. Different people react differently to the same stimuli according to their sensibility and characteristics; this the actor must know and sympathize with.

Writers sometimes speak of a "radiance" that a good actor possess. It is this spiritual projection, this variation, that passes over the foot lights and penetrates and moves the audience. The time must come when actors can act silent scenes so that their thoughts can reach the audience just as their speech reaches an audience to-day; when they can play a scene of emotional thought or pantomime without words. Actors will be able to act these silent scenes only when they have coordination of mind and body and when

they can concentrate on the definite emotional thought.

Some say that technique does not matter, yet through it alone the actor makes permanent the effect he has gained emotionally. Without technique, the capacity for nervous emotion, that quality so vitally needed on the stage burns itself out early and cannot be depended upon. Body and Voice, as parts of body vibration, are the actor's equipment, and control of this equipment governs his performance as stage business controls the complete picture of the play. In acting emotion comes first, form follows. Nor is emotion alone enough, for it must have an outward expression; it must become pantomime in order to be acting. Emotion, outward expression, and a technique to insure the truest pantomime are the elements of acting.

Emotional Patterns are Controlled by The Autonomic Nervous System.

A Discussion based on Chapter twenty-four in J. B. Morgan's "The Psychology of Abnormal People." pp. 225-235, Longmans, 1928.

Mrs. Hattie C. Huston
1935 Summer Session
Louisiana State University
Speech 119.

(Dr. Jesse F. Williams of Columbia University in "A Text Book in Biology and Physiology" says that Autonomic embraces all the nerves and ganglia situated outside of the spinal cord and engaged in regulating the glands and smooth muscles. Preganglionic or afferent fibers carry impulses to the ganglia and post-ganglionic or efferent fibers carry impulses from the ganglia to the viscera.)

"The researches of Gaskell and Langley,[1] followed by such workers as Cannon[2] and Crile,[3] have shown that the emotional life is centered in the autonomic nervous system---This part of our nervous system operates on quite different principles from the central nervous system."[4]

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1 "The Involuntary Nervous System," Longmans, 1920.

2 "Bodily Changes in Pain, Hunger, Fear and Rage," Appleton, 1920.

3 "The Origin and Nature of the Emotions," Saunders, 1915.

4 John J. B. Morgan, "The Psychology of Abnormal People," Chapter 34, page 225, Longmans, 1928.

In the skeletal reflex a sensory impulse is carried by an association of neurone connections, and go only to the striped muscles. When the striped muscle is stimulated sensory receptors in the muscle carry other impulses back to the nerve centers in the cord. While in the autonomic reflex the impulse is carried in the same manner to the synapse in the spinal cord; from here it is conducted by afferent fibers to the ganglia outside the spinal cord then through efferent fibers to the smooth muscles and glands. There are no afferent stimuli from the smooth muscles to the cord.

The centers of the autonomic nervous system are not located within the spinal cord but in ganglia which lie within the trunk region along either side of the cord. In the head and pelvic region they lie within the organs which they control. They lie within the heart and stomach. These ganglia are widely distributed over the body for the purpose of giving harmonious action in the responses of the groups and pairs of smooth muscles and glands.

The autonomic and central nervous system are

very closely connected by means of association fibers. They are interdependent. The behavior of human beings and higher animals is motivated by the autonomic nervous system.

According to Perrin and Cline the central nervous system involves thinking and intelligence and motor habits. The autonomic is responsible for the drives, emotions, feelings, and other organic states that motivate the organism in its contact with environment.[1]

The autonomic nervous system is biologically divided into three segments or divisions.[2] (1) The cranial; (2) the sympathetic or thoracico lumbar; (3) the sacral. The cranial segment refers to the part above the arms; the sympathetic segment refers to the division between the arms and legs; the sacral refers to the lower somatic section.

Fibers from the cranial segment go to the ciliary muscles of the eye, the tear glands, the heart, the lungs, stomach, liver, pancreas, kidneys,

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[1]Perrin and Cline, Psychology Its Methods and Principles, pp. 22-23.

[2]J. B. Williams, M.D. "A Test Book in Biology and Physiology."

and intestines.[1] Fibers from the sacral segment go to the kidney, intestines, bladder and sex organs. Fibers from the sympathetic segment go to the whole range. Where fibers go from two segments to the same organ they become antagonistic. The fibers from the sympathetic segment are the most active. The cranial and sacral acting as inhibitors to too great activity.

The cranial segment is the great conserver of bodily resources---keeping the region with which it is connected in a state of tonus. It inhibits those reactions accompanying excitement too great heart action, etc. The sacral segment controls contraction of muscles. The sympathetic is the opposite. The following is an illustration of how they work:

Effect of Cranial Stimulation	Organ Involved	Effect of Sympathetic Stimulation
Contraction	Pupil	Dilation
Beats more slowly	Heart	Beats more rapidly
Inhibited	Adrenals	Stimulated

"The antagonistic effect of the two end divisions with the central is usually considered of pronounced

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1J. R. Williams, M.D. "A Text Book in Biology and Physiology."

service to the body. Yet through emotional excitment profound disturbance may result due to effects produced over the cranial or sacral divisions." This results in paradoxical behavior as in the case of great sorrow or grief, where laughter appears instead of weeping. This is from the standpoint of the physician. Professor Cannon, the psychologist, found that adrenin acts directly upon the heart, arteries, digestive organs, and other tissues, in precisely the same manner as the impulses of the sympathetic fibers. It serves therefore, in the strong unpleasant emotions as an aid to the sympathetic J. B. Williams, M.D. by augmenting and prolonging its effects. It helps to maintain the body "upon a war footing." He sums up the functions of the different segments as follows:

1. "It is highly probable that the sympathetic division, because arranged for a diffuse discharge is likely to be brought into activity as a whole. Whereas, the sacral and cranial divisions arranged for particular action on separate organs, may operate in part.

2. "Because antagonisms exist between the middle and either end division, the affective states may be classified according to their expression in the mid- or end-division and these states, like the nerves would be antagonistic in character.

3. "Since the adrenal glands are innervated by autonomic fibers of the mid-division, and since adrenal secretion stimulates the same activities that are stimulated nervously by this division, it is possible that disturbances in the sympathetic segment are augmented and prolonged through chemical effects of the adrenal secretions.

"The stimulation of the autonomic nervous system is through the central nervous system. A stimulation coming from either external receptors or association centers carries the impulse to the autonomic and certain patterns of response result which we characterize as emotions."

The deductions to be made, from the foregoing discussion, by teachers of speech and actors are: first, emotions may be controlled and more easily controlled by a knowledge of the laws governing them; second, that by thinking or use of the intelligent will is the control made possible.

GARDNER MURPHY AND LOIS B. MURPHY

"EXPERIMENTAL SOCIAL PSYCHOLOGY" 1931

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Are There Innate Patterns of Facial Expressions?

PRESENTED BY

Alleen F. Lambert

TLC

Are there innate patterns of facial expression?

The pioneer work of Telecky on the expression of the emotions undertook to ascertain how accurately individuals could guess the emotion registered in an actress; 86 photographs were presented to 100 subjects, who were required to pick from the list of emotions the names appropriate for each photographic representation. The very considerable success attained by these subjects led to further study of the problem.

In fact, a considerable amount of experimental work has been done on the capacity of subjects to interpret emotions. Mirth, for example — may be fairly accurately gauged by a glance at a photograph of an actor who has undertaken to portray this feeling, while other emotions, such as despair, are but very imperfectly gauged. Allport carried out an experiment of testing, over a considerable period, the influence of training in the interpretation of facial

expressions. Those subjects who had at first done exceedingly well gained nothing from studying the facial muscles with a view to a more analytical attack on their problem, while those who had made distinctly poor scores profited enormously from such analytical study and at the end of the practice period nearly equaled those who had so greatly excelled. The data strongly suggest that the ability to interpret such expressions is in very large part based on experience rather than on "original nature". Probably those who made good scores at the beginning had picked up their knowledge of face-reading without knowing quite how they did it, so that analytical methods did them no good, while those who were poor at first completed in a short time the practice necessary to balance that of years of learning by "intuition". But so far the evidence seems in favor of "facial patterns".

Another attempt to study the process of learning to interpret facial expression is Guilford's work with fifteen subjects, who attempted every second day for ten days to interpret pictures portraying emotion. Training produced big results, as in Allport's study. The rank correlation between initial ability and degree of improvement being -.76; the poorest ones improved the most, as was true in Allport's subjects. Guilford introduces a variation in technique by presenting some of the pictures fifteen seconds and others sixty seconds, and concludes from the results that the students who proceed analytically gain more through the lengthening of time than do the ones who proceed synthetically (taking the picture as a whole). The synthetic ones are, as in Allport's work, the ones who made the best initial scores.

The implications of all this kind of work seem to us to be the opposite

ation of the view offered by Allport, that we learn to grasp the emotional expressions of others. Just as Buhler found that three-months-old children laugh ecstatically when tickled, and just as Gates found that the ability to intrepret facial expression increases regularly with chronological and with mental age, so the study of facial expressions by adults enables them to label these more and more correctly. The evidence is strong that there is no basis upon which an innate capacity to interpret emotional patterns can be predicated. But this leaves the pattern problem untouched.

So familiar are the stereotypes recognized as appropriate facial expressions for different emotions that Boring and Titchener constructed a model which could be so fitted together as to bring out a number of different emotional patterns. In view of the fact that some emotions

seem to be more easily recognizable from the models than others, Jordan and Zernberger undertook to see to what extent they could increase the "accuracy" of judgment by making the representations seem plausible. Nearly a thousand students were asked to tell whether or not a given term described a given emotional expression which was shown on the model, and whether its representation was poor, fair, or good. Four months later the same faces were shown to the student. (Mostly the same individuals as those participating earlier). One of the experimenters went before the class and by means of mimic and pantomime showed the expression before the group, analyzed it, and built up the Boring-Ditchener model to correspond with the expression as he had shown it. The result was to increase markedly the number of "correct" judgments with regard

to the anger expression (from 36 to 56 per cent correct). Comparing the Jarden and Fernberger results with those obtained earlier by Buzby, it is clear that high percentages of right judgments do not prove the reality of emotional "patterns". Our chief interest here is to show that even an expression which is "incorrectly judged" can be made much more recognizable by artifical aids; i.e., that suggestion is important.

We have, of course, been dealing, thus far, with "make-believe" emotions. Significantly, however, Feleky had concluded her original observations with the earnest suggestion that such a preliminary study as hers should be followed by the publication of pictures of people in "naturally aroused" emotional states. A good many years passed before this was done. At last, however, Landis and Dunlap have published such studies of "naturally aroused" emotions, and it is upon these studies that we would chiefly lay emphasis.

We may consider Dunlap's work first: for that of Landis leads to other problems. Dunlap is concerned with the part played by the upper and lower halves of the face. Hackmick had found that emotion seemed to be better interpreted from the lower half of the face. Dunlap presents similar and very cogent data. Pictures were taken of individuals subjected to genuine emotion-rousing stimuli. The responses at which he aimed and the stimuli used to arouse them included amusement (jokes); startle (firing a pistol); pain (bending the finger joint); disgust (dissected tissues with strong odor); strain (dynamometer work). The photographs taken in these situations were cut horizontally through the bridge of the nose, and judgments of emotion were required of the subject when presented with the upper half, lower half, and the entire face. Some composite faces were also made up in which one upper half was combined with a "wrong" lower half. Lantern-slide presentations of these plates were shown to

groups of subjects who were asked to select the appropriate emotion from a list. The subjects were then asked to compare the original pictures with the pieced-together pictures, in which either the upper or the lower half was identical with the corresponding original picture. The problem was to find whether the judgment or likeness or difference between two emotion-registering photographs depends upon similarity of the upper halves or the lower halves of the pictures. In most cases, the great majority of subjects indicated that the picture with the same "mouth half" was more like the original than the one with the same "eyes half". From this Landis reasonably concludes that the mouth muscles play a greater part in determining the effect upon the observer than do the eye muscles.

Something, then, has been done in the direction of determining types of facial expression associated with emotions. But the evidence carries us but a very small way toward any theory of fixed emotional patterns. There are, however,

9. Some interesting studies in which facial patterns are studied along with other bodily patterns.

Does the whole body show emotional pattern responses?

The method of Landis, though it has its defects, is the most systematic yet applied in the attempt to answer this question. Landis subjected his seventeen subjects to a great variety of exciting, depressing, disgusting and generally bewildering stimuli. In one situation the subject's hand was put in a pail of water which contained three live frogs, and at the same time he received an electric shock. In another situation the subjects were required to examine pictures of skin diseases. In a third - and this seems to have been one of the most harrowing - the subjects were required to cut off the head of a live white rat with a dull knife, or, in cases where they refused to do so, they were required to watch the experimenter perform the act. In another experiment

the subject had to write out the most embarrassing incident which had ever occurred to him, and then listen while this was read back to him by the experimenter. That Landis did actually succeed in inducing strong emotions is attested, first, by some of the photographs which he has presented, in which facial contortions are plentiful, and second, by the cursing (or weeping) of the subjects.

Two general criticisms must be considered. First, Landis' data are based upon sessions during which one exciting or disturbing ~~reaction~~ situation after another was presented, and it is by no means certain that the reaction to the third or fourth stimulus was what it would have been if the stimulus had been given in another situation. In fact, in those experiments in which the subject had been required to go through prolonged tensions, it is very doubtful whether the particular stimulus acting upon the subject at the time was really the chief cause for the

behavior exhibited. For this reason we cannot evaluate Landis' reports of the kind of facial expression, blood pressure, pulse change, etc., which attended certain stimuli; for how can we know what the changes in these physical functions would have been if the stimulus had not been preceded by a long and grueling succession of shocks and horrors? A further caution must be added. One might under ordinary circumstances be disturbed or frightened by a given stimulus, yet in the situations used by Landis might regard almost anything as a relief from what had gone before. In class room experiments on emotion, for example it has been found that after a rest period a subject's first attack on difficult mental arithmetic was accompanied by a steadying in his breathing. The reason is not at all mysterious. During the rest period the subject had expected a loud sound or something worse to occur at any moment. When started on the

mental arithmetic, he was reasonably sure that he was "safe", at least for the time being.

Landis' data seem to show that within the limits defined by his experiments there are no patterns which can be consistently detected by measurements of the physiological changes involved. Landis also failed to find any distinctive internal pattern-responses which were characteristic of specific emotion.

Landis also asked students * of Psychology to observe fifty lantern slides which had been made up from the photographs mentioned above. These photographs were of both men and women, the photographs having been so trimmed that the head and shoulders appeared but that postures were excluded. The subjects were asked, first, to name what emotion they thought the person was undergoing, second what kind of stimulus they thought aroused

13. it. The results show that the guesses as to the emotion which was being experienced were exceedingly bad. Of the character that one should get if there were no causal relationship present. When the subjects were asked to tell what kind of stimulus they thought aroused the given emotion, most of them reported vague descriptive titles such as joy and sorrow, and these turned out just as likely to be wrong as right. When the subjects were only required to tell whether they thought the experience was pleasant or unpleasant, they were just as apt to get the matter wrong as right.

Such generalized emotional patterns as have been demonstrated appear to be mostly of two kinds: (1) those extreme and violent patterns of the jump-up-and-down, stand-on-one's head variety which Chimpanzees, many primitive peoples and many children show, and (2) those stereotyped patterns which are recognized as current coin

in every day civilized life. The former groups of uninhibited expressions may conform to patterns, but such data as we have suggest that it is sheer violence rather than interrelations between responses that is the essence of stereotyped expression. The origin of the expressions is not so simple.

Actually we probably do size up one another's emotions with fair success when the emotion is great. We have learned to designate a series of changes - facial, respiratory, postural, etc. - as characteristic of fear and if a person shows them all at once, we are reasonably sure that he is afraid. We recognize in common practice that no one criterion is reliable. We expect a good actor as a matter of course to make Macbeth's terror or Cyrano's pride evident at a glance, through the studied magnification of a group of changes rather than through the mere reproduction of

an isolated element. All this leads us to feel that it is exceedingly unfortunate that there are no data presented in a fashion which would permit a study of the total patterns found in those instances in which the emotion was experienced as definite, unequivocal and strong.

Your own opinion?

TERM PAPER

THE THEORY OF EMOTIONS

Submitted to T. Earl Pardoe in Speech 119 in partial requirement for grade.

Frank B. Creighton

FOREWORD

This paper is an attempt to put into a concrete explanatory outline, an article by Harlow and Stagner on the theories of emotions. It has proven to be very enlightening and interesting to me in the presentation of its facts. Some of it has been beyond my comprehension, but I have put herein the most interesting material in the article, and hope that it may be a source of interest and revelation to others.

THEORY OF EMOTIONS

from the article, Psychology of Feelings and Emotions: II. Theory of Emotions, by Harry F. Harlow and Ross Stagner, Psychol. Rev., vol. 40, 1933, p. 184-195.

I. INTRODUCTION

A. It has been pointe out in a previous paper,(9) that the existence of feelings as distinct and discrete psychophysiological entities can hardly be questioned, since there is abundant evidence to show that they exist as independent conscious patterns.

B. Elementary affective states:

1. pleasantness
2. unpleasantness
3. excitement
4. depression

C. Evidence from many sources to indicate that these four elementary feelings are attended by characteristic reaction patterns.

1. It is not meant by this term that all pleasurable stimuli will invariably elicit the same response in a particular muscle or muscle-group.

2. It is not meant that a single kind of affective stimulus will invariably produce the same reflex response at different times.

3. An elementary knowledge of the functioning of the neuromuscular system shows the logical absurdity of that reasoning.

D. Skeletal motor responses induced by mental states should not exhibit a high degree of uniformity and similiarity in the individual reflex elements of the response, but should show only a certain "functional" unity.

C. It is the attempt of this paper to bring order out of the chaos existing in affective psychology by an appreciation of these conceptions to the psychology of emotions.

II. PREVIOUS THEORIES OF EMOTIONS

A. Theories of emotion previously advanced differ on three fundamental problems:

1. the nature of the conscious processes that go to make up an emotion,

2. the anatomical localization of the centers for feelings and emotions, and,

3. the ~~number~~ number and nature of innate emotions and their subsequent modifications.

B. The theories concerning the nature of the conscious processes that go to make up an emotion range from:

1. the original formulations by James (12) and Lange (16) who hold that an emotion is nothing more than a particular pattern of organic and kinesthetic sensations, to those of,

2. Wundt (32) who believed that an emotion was only a pattern of feelings where a series of feelings suceeding one another, and in time unite to an intermediate process that is called the unitary succession of feelings and emotions.

3. Intermediate between these extreme views are those which admit that both of these processes are involved.

a. Titchener (28) emphasizes the importance of the feelings although admitting that organic sensations may play some part.

b. James (13) in his later reformulations took an opposite point of view, admitting that there is a basic feeling tone but still over-emphasing the importance of the sensory pattern.

c. The clearest formulations of this "mixed" view have been made by Allport (1) and Tolman(29). They hold to the very rational opinion that there are feelings, pleasantness and unpleasantness, which give a characteristic tone to all emotions. Both say the differentiating factors of specific emotional experiences are kinesthetic sensations resulting from a particular body set.

d. Cannon's position in this regard cannot be stated, as for him an emotion is an emotion, an introspective datum which is apparently unalayzable (5).

e. The same view has been held by many psychologists such as Stout(26), who holds that there are introspective differentae for each emotion, apparently innate and irreducible.

C. Few of the authors of theories and emotions have been willing to commit themselves on the anatomical localization for the various affective processes. The ascribed and implied cerebral localization for these various theories, however, differs.

1. James properly located the organic and kinesthetic sensations which were supposed to be the emotion in the area of the cortex. I n his reformulations, he did not localize the feelings which were added.

2. Wundt and Titchener seem to imply that the cortex is the seat of all conscious processes, and therefore the seat of the pattern of feelings that comprise, are emotions. There is nothing in their point of view, however, that necessarily assigns these processes to the cortex rather than to any other cerebral center.

3. The position of Allport and Tolman is very similiar to that of James. Though they do not ascribe the feelings of the differentiating kinesthetic sensations to any cerebral center, the cortex is implied. Although both of these psychologists recognize the feelings as elements in the emotional response, they both assume that the feelings result from the visceral sensations and therefore must be location as center for the feelings in the cortex.

4. Both Dana (6) and Cannon state that the emotions are a result of action and interaction of the cortex and the thalmus. Dana has attempted no forther analysis of the part played by each of these cerebral centers. Cannon it seems, is unwilling to admit that the subcortical centers have anything to do with consciousness. Instead the emotional stimuli set up a pattern in the thalmus which in turn sends impulses to the cortex, where they are experienced as a conscious state of emotion. Thus, although the thalmus is essential for the feeling, it is not, according to Cannon, the primary projection center for these conscious states. This is a revival of the earlier theory of Sergi (22) who suggested that the brain stem is the seat of the affective process and the function of the cortex is in rendering this conscious.

5. Head and Holmes (10) and Stopford (25) of the English school ascribe the affective qualities of pleasantness and unpleasantness to the thalmus.

D. The theoritical positions or the number and nature of innate emotions are also varied from,

1. Dashiell (7) and Sherman (23) who cast doubt upon the existence of any innate emotional responses, through,

2. Watson (30) with three, and up to,

3. McDougall (17) with fourteen.

III. PREVIOUS THEORIES OF THE ACQUISTION OF EMOTIONAL RESPONSES

A. Dashiell (7) suggests two theoritical attitudes toward the problem of inheiritance of emotional responses:

1. There are emotions corresponding to the different conventional names, but the visceral core of each remains yet to be discovered.

2. Such names as are conventionally used for different emotions refer to different types of viscerally facilitated or inhibited overt behaviour patterns that have been classified and labeled more in terms of their social significance than in terms of their visceral components.

3. He then suggests that visceral patterns reinforcing and facilitating the overt behavior of the individual are acquired, and since the control of the viscera by environmental stimulation is quite indirect, the pattern acquired by a given individual will bear little or no relation to that of others. Two points argue against this view:

a. even the overt behavior manifested by an individual in emotional situations is quite inconsistent and lacking in uniformity. (Landis (15) on facial expressions), and,

b. the visceral and overt patterns manifested by an individual when he reported the same emotion were not consistent (Landis, Brunswick (4) on visceral tone.) Since the subjects of Landis' experiments could not identify their emotions from their own photographs, it seems quite unlikely that even social behavior in emotions is consistent enough to be a basis for naming emotions.

B. Sherman (23) writes as follows concerning the genesis of emotional reactions: " The reactions are at first generalized, but even in the earliest responses two types of reaction are noted:

1. that of rejecting the stimulus, and

2. that of accepting the stimulating condition. The emotional activity which serves to reject the stimulating condition may further classified into the two foolowing:

a. the rejection of the stimulus by retreat, and

b. the rejection of the stimulus by aggressive activity. "

3. As good behaviorists, neither Dashiell nor Sherman have made any effort to explain the conscious concomitants of emotions. Neither have offered any reason for these native segments of behavior which most manifestly do occur. Therefore these theories are lacking in completeness.

C. Tolman (29) position, concerning the differentiating of emotional responses appear more precise and plausible than any of the other theories so far presented. He believes that:

1. the emotions are distinguished and given separate names by virtue of,

a. the differences between the final physiological quiescences and disturbances which they are respectively seeking and avoiding, and

b. the characteristic differences of means-end-relation in which they expect these respective quiescences and disturbances to lie."

2. The anatomical and physiological concomitants referred to by Tolman are vague and undefined, and it is difficult and impossible to determine the unconditioned responses upon which the conditioned emotional response must have been performed.

IV. PROPOSED THEORY OF EMOTIONS

A. The theory which is advanced is:

1. unconditioned affective responses form a basis for the emotions (these affective patterns being describable in terms of consciousness and feelings, induced by activation of sensory thalmic projection centers, and by reaction patterns controlled by motor nuclei) and that,

2. emotions themselves are conditioned responses subsequently formed.

3. The conditioning processes by which all emotions are acquired, modffy the unconditioned affextive pattern by extending the range of stimuli that will elicit it, and usually by "damping" the violence of the unconditioned affextive response.

B. Such a theory may be employed effectively in discussing the three fundamental controveral problems of the emotions without doing great violence to the body of introspective, pathological, and experimental evidence that is now at disposal.

1. The fundamental conscious emotional states are feelings (Titchener (28), Wundt (32), James (13), Allport (1), and Tolman (28).), but since a specific emotion is a psychological unit of greater magnitude than a feeling, other conscious states may be presented, that is, consciousness of the stimulus (James (13), Tolman (29), and Watson (30)0, and also conaciousness of the bodily changes (James (12), Lange (16), Sergi (22), Allport (1), and Mott (19). Since according to the Gestalt and the "common-sense" point of view, the part played by the various physiological processes is not discriminated,the various emotional states may appear as consciously different and unalyzable unities (Irons (11), Stumpf (27), Stout (26), Krueger (14), and Cannon (5)).

2. The feelings are localized in the thalmus, while sensations are localized in the cortex. This conception, and this conception only, accords with the neurological findings of Roussey (21), Head and Holmes (10), Goltz(8), de Barene (3), Dana (6), Wilson (31), and Bard (2).... and the various psychological studies of Sherrington (24), Cannon (5), and Maranon (18).

3. The problem concerning the number and nature of innate emotions and the manner of their subsequent modification is also well explained by this theory, as suggested By Dashiell and Sherman, there are no innate emotions. The advantages of the theory, however, is that it suggests a group of unconditioned responses as a basis from which the emotions may develop. Although the number of emotions, that is, specific conditioned affective stimuli, is without limit, it is agreed with Tolman and Allport, that ceratin fundamental emotional classes are delimited by the underlying feelings.

C. The theory is likewise supported by the observations of Watson (30), Sherman (23), and Pratt, Nelson and Sun (20) on the affective reaction of infants. The observable changes which occur are more appropriatly describable as responses to exciting, unpleasant or unpleasnat stimuli, than as specific emotions. The lack of uniformity found with very young infants emphasizes the importance of learning.

V. CONCLUSIONS

A. The unconditional components of affective experience are the four fundamental feelings:

1. tones of pleasantness,
2. unpleasantness,
3. excitement, and
4. depression.

B. These are associated with projection centers in the thalmus and have reflex connections with various subcortical motor centers.

C. Emotions (Considered as specific emotional experiences) are not innate, but develop as a result of learning. An emotional response includes the fundamental feeling-tone aroused by the sensory stimuli, and the cognizance of the stimulating situation.

D,. Differentiation of specific emotions is to be considered not as a matter of different motor components, but simply as differences in the conscious attitudes taken toward the stimulus.

E. The occurence of a motor response is not essential to an emotional experience, and in pathological cases the conscious and reflex components of the pattern may become dissociated.

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A HISTORY OF INTERPRETATION AS SHOWN IN ITS FOUR MAJOR SCHOOLS

"Man must pass from old to new,
From vain to real, from [illegible] to fact,
From what once seemed good to what now seems best;
How could man have progession otherwise?" (1)

To enter into a complete development of the history of interpretation is indeed work required for a volume. This is a very interesting subject, [illegible] instructive from a historical point of view, but would give many illustrations of "what not to do." Everything human has a history. This is important or we would have a tendency to live over again the errors which were made centuries ago. In the study of the history we find great inspiration to progress. New material, new ideas, new methods, are only a few of the many accomplishments. The mind becomes instilled with a tendency toward advancement which in succeeding years inpels higher views.

Several theories have been advanced as to the origin of speech. First is the gesture theory, arguing that all learning starts with random movements which are finally selected as best adopted for the satisfaction of the individual's wants. What tends to support this theory is the fact that primitive peoples use gesture and facial expressions along with vocal speech. Children use gestures before utterance. Although this theory proves gesture as an adjunct to vocalization and that movement preceeds voice, it does not account for the origin of spoken language as civilized people know it. Another theory is the interjection theory, which suggests that sounds were first accidently uttered by

individuals in an extremely emotional state. It is true that these interjectional elements are present in each generation and in all languages, they are different and it is difficult to see how the more complex vocal and language symbols could have originated from them. The third is the onomatopoeia theory, telling that man first initated the sounds of nature that he heard about him; and that he came to substitute other sounds for objects that did not produce sound. As in the other two theories that I have xxx mentioned this does not prove the most essential elements of language. The most logical of all theories is that of social behavior "which suggests that man has conventionalized his random successes in the control of the behavior of his fellows by vocal sounds."(1) This does not account for the complicated modern languages with their component parts and grammatical rules, but it does offer a broad basis for the development of primitive speech.

The fundamental importance of this theory in modern speech may be shown in the following example. Let us suppose that there are two dogs, one of which is gnawing at a bone. The other one is also hungry. He could, were he strong enought, actually attack the first dog by killing him or by so crippling him that he could not interfere with his own devouring of the captured meal. This procedure would be hazardous. Therefore the only way [illegible] the notions of the attack. He rushes to the first dog, [illegible] his teeth, and growls. The first dog,

interpreting those expressions as to mean an attack scurries off leaving the bone. As social control has accidently been accomplished by the second dog, he ever afterwards uses similar reactions to bring about similar results. A growl is not exactly the same as speech, but in this [illegible] theory, the [illegible] theory, but the motivation involved may be basis for later developements. In fact many animals have a number of conventionalized speech sounds. The hen is said to have ten or twelve, the dog five or six. A university professor once claimed that he could converse with a pet monkey, whose native language he had learned, and his "[illegible]" [illegible].

The theories of the origin of speech emphasize the fundamental virtures of certain elements of modern speech. If gesture were the first means of communication, if both child and race have found it effective in their infancy, there is without doubt some virture in gesture in speech, especially in the fundamental social relation. If interjection stirred the depths of one's emotions it would truly be ridiculous to overlook them. If imitation is so important that some believe all sounds have been developed onomatopoetically, then no reader or speaker should neglect it. Most important of all, speakers and readers should be mindful of the fact that they are delivering for the purpose of social control.

Looking over the last one hundred and fifty years we see well defined stages of developement. Yet in studying the methods employed during this time we learn that what nearly every one discarded long ago is still practiced.

The subject is a difficult one because the art is a completely passing one. We have records of what Demosthenes said, but just how it was delivered, the modulations of his voice, his action, his whole manner, no one knows. No adequate means of recording such interpretations has ever been found. The advent of the phonograph gave us new hopes, but,although one's voice can be recognized,his action, manner, and even the color of his tone is completely absent.

In every department of art we find different schools in which there are not rules but methods which must be founded. Each person has his own ideas which he would not change for any other point of view. To one person the clearness of utterance may be what matters most. Another might center on the quality of the voice itself, and another on the pantomine. One man may do things spontaneously and burst out with an explosion of inspiration; while another may tackle it as a hard task. No matter how had the method, it will give inspiration and form an eagerness to do better. Hence, there will ever be new schools, because there will always be more ways than one of doing every thing.

Of all the methods in the developement of interpretation, perhaps the oldest is the imitative. There are some who believe that all art must be founded on imitation, that a beginning must imitate some preceeding ideas. Some argue that expression is so subjective that imitation is the only way of getting to the subject, and that the only way is for one person to deliver a speech and have his pupil say it exactly as he does. This method does not give the pupil a fair chance to express his own individual personality. It teaches him one radical interpretation, not only in voice but in idea. This has a tendency to make the material presented often sound lifeless, mechanical, artificial -- just what it is -- imitated. The reader lacks individuality and personality. Someone has wisely said that "imitation is ever a synonym for weakness in art." The severest possible criticism that one can make is a change of imitation. It weakens a personality, it stifles the developement of one's inner feelings, the depth of one's emotions. The fundamentals are lacking. It ignores the laws of nature; it is not natural but mechanical. No two people are exactly alike, not even two leaves. Each has its own individuality, although it is dependent on its parent stem for vitality and it's external characteristics.

Many in every age have practised this method and some even do so, though they know it is theoretically wrong.

Some cling to the idea that they must adopt it.

Some will contend that teachers must use the process of imitation on their beginners, and that the pupils will grow out of this form into self expression. But this is not the beginnning one should take. The action of the mind in imitation is entirely different from the action of the mind in creating. It lacks the powers of imagination and the response from the same.

The student who models his work upon that of another can never become a true artist. He overlooks the fact that men have different temperaments, that the emotions, although from the same ideas, impress individuals differently. These expressions are artistic only if they reveal the individual nature of the speaker.

Imitation is, after all, only copy, parrot work, and this applies to written as well as to spoken thought, to manner -- in fact all phases of life -- and reminds one of a man wearing the clothes of another that do not fit. It smacks of affectation because it is not genuine, it is flat because it lacks spontaneity; it is colorless because it lacks the touch of true feeling, [illegible] always recognized upon sight. Imitation is recognized by its absence of soul; its want of reality.

It seems most ridiculous to expect a child with a low voice to imitate a teacher with a high voice and vice versa. This is an impossibility and has often ruined a student's voice with such artificiality. Any method of

education which fails to develope a student's personality, character, individuality, and instincts is false to all true methods of education.

A person cannot always have his teacher with him. Someday he may be given a selection to deliever. He must know how to do it without being continuously coached and must learn to depend upon himself for the true interpretation. Imitation is an unconscious act by which detremental habits are formed. Professor Alexander Melville Bell once said, "The principle instruction to which elocution owes its meanness of reputation may be expressed in one word -- Imitation."(25) It was Emerson who said, "Imitation is suicide."

The Mechanical School has existed over great number of years, and is still in existence to a great extent. The method applied might easily be called "[illegible] Methods," the general characteristic of which is to proceed from analysis of the mechanism of speech, and to go by certain fixed rules of the thought and feeling as to the manner of delivery. These methods arose from the realization of the inadequacy of the methods of imitation. Sheridan was the first to begin the struggle for the methods of mechanicalism. In 1759 he published a book in which he discussed his methods and ideas. The methods in his second book, published in 1774 show more artificiality than the first.

In 1805, Austin published "Chironomia," a book on gestures, which influenced what might be termed as the Gesture School or Declamatory School. The whole idea is ~~quite~~ of paying attention only to the movements of the arms, and almost entirely ignoring that of the face and body. Positions and attitude is completely disregarded. It is realy astounding just how long such an artificial school has lasted, and how much evil its methods have produced. We still find them being used in school [illegible] and recitals by some "elocution teachers". The teachers certainly do not entrust much to the minds of their audience. When I first took expression I was taught to kneel if that word was ever mentioned in my "piece" and to indicate with my fingers just how old my little characters were. I never could understand why I, a child of six or seven years, had to point out the sea, the grass, the sky, the trees, and what ever other places happened to be mentioned, to people so much older than I. I remember once I was talking about a needle, and, being instructed to move my hand as I would in sewing, I moved it up and down, making little scallops so it seemed. Everyone started laughing to my surprise, but afterward I was told that I was evidently not a very good seamstress, as I had sewed up my air backwards.

Mechanical elocution was carried still further until it reached "the highest possible perfection," as

defined by one of its leading advocates, Dr. James Rush, whose "Philosophy of the Human Voice," was published in 1828. He contended that the scale of inflection could be published like a scale of music, and that each emotion could be expressed in accordance with a certain rule. He contended that the qualities of the voice, the stresses, and modulations, could be regulated by rules and even printed as a score like music. He contended still further that each feeling is to be rendered by inflection of a given length, stress of a given character, as well as tones of a special quality. The following is copied from a lesson given by him.

"Sorrow: to be rendered by a low pitch long quantity, aspirate quality and slow time.

"Joy: rendered by high pitch, short quantity, pure tone and quick time." (1)

Such statements are preposterous. Any observer of nature will realize that sorrow is given in all pitches, and joy is not always confined to high pitch. These are merely accidental facts which sometimes hold true, but to make it a rule is absolutely absurd.

The Rush system entirely overlooks the subtle modulation of pure tone by emotion, which is one of the chief characteristics of good expression. To render sorrow with an aspirate quality of voice is to degrade it. Such a system makes the whole Art of expression nothing but a mere matter of mechanical stresses, waves, semi-

tones, and tremors. A reading by this system is only "an exhibition of mechanical actions, misscalled 'signs of emotion'". (3)

The popularity of the mechanical school, especially the Rush system, is strange. It is probably owning to two reasons. It is flattering to tell the speaker that his thought is great, that he has a keen imagination and passion, and all the requisites of a good speaker. All he needs is a few rules to execute certain vocal actions and he will probably be right. A man often misinterperts this to mean the action of his mind. Another reason is because elocutionists are always looking for some scientific basis for their teachings. It is however, totally wrong to use this system in interpretation, and should definitely be abolished.

Whately was the instigator of the "Impulsive School. He believed it unnecessary to pay studied attention to the voice, but to studiously withdraw thoughts from it, and to dwell on the sense, trusting to the feelings to emphasize correctly and to supply the proper tones. He believed that one who understands fully what he is reading and fills his mind with its contents is likely to deliver his material and therefore convinces his audience, by his impressivness of the delivery, that his hearers understand it also and will be impressed. He states that this cannot be the case if the reader is thinking about how his voice

ought to be regulated, what their opinion is of his reading, or in other words, if he is thinking of himself, and, of course, abstracting his attention from that which ought to occupy it exclusively.

This system has not been shown to be adequate. If Whately could not have devoted more time and attention to his problem, it has been suggested that he should have left it untouched. He did not go far enough in the fundamental need in developing interpretation and delivery. He furnished no solution in conquering the problem.

Many have realized how silly his thoughts are, and have contended that there must be attention directly on the delivery. Whately's beliefs have not been taken up and discussed as they could be. There are subordinate divisions of this school. One is named the homiletic, a method consisting of having the students criticize their works and give talks on their needs. They will then be mindful of their mistakes and correct them by conciously avoiding them. As you see, this is contrary to Whately's plans.

Another form is called the sentimental. One prominent teacher says that "all vocal technique is a necessary poison."[b] The students were taught to attend [illegible]

actual work on execution. In such an institution no examinations are held. The students merely listen and absorb the material and then are given a degree by the authority of some great state. This shows the ridiculous extent to which sentimentality in educating interpretation can be carried.

The truth emphasized by the Impulsive School is that the soul speaks and not merely the body. The interpretation is not an imitation. The soul must be studied as well as the body. Its weakness lies in the fact that it overlooks the nature of art which demands, not only impulse, but technical skill. There is no method of correcting faults. If a student is stirred a certain way, and interprets his feeling , he is supposed to be correct. During the past fifty years less attention has been given to such delivery.

The indirect results of Whately's work have been beneficial. The emphasis of not placing the mind on the delivery mechanically is indeed very fine. Had Whately but gotten a better grasp on his beliefs and perfected them, he might have founded something really worth while.

A method introduced within the past twenty-five years is the so-called Delsarte system, which has [illegible] systems.

Delsarte never published anything himself. His supposed writings were sold to three Americans, who were very disappointed with the few relics. After Delsarte's death, a young prêist published, without any authority, some notes which he had taken in his classes. The book sold for fifty cents in Paris, but was a failure. A poor translation was sold in America for two dollars a volume to the financial success of the publisher. The book was, however, universally condemned by everyone who knew anything about Delsarte's teachings. It was crude, and terribly misrepresented his method.

Thus the history of the work of Delsarte is very s strange. In France, the birth place of this teacher, no follower of his can be found. Many teachers studied under him, but none teaches in accordance with his methods. But in this country it has been almost universally accepted. One reason for its enthusiastic acceptance was because the whole universe was fighting against mechanicalism, and was contented to follow anything promising a philosophical basis for a better method. Another cause was the lectures given in different cities of the United States by Delsarte's favorite pupil, Mr. Stele Mackaye, during 1869 - 1870 and 1872 -1873. Another was the exagerated claims that this system contained a key, not only to all the difficulties of interpretation but to all art and to the whole universe. The imagination of men raised it to

fanciful heights, and encouraged the wildest pretencions.

Delsarte disliked the word "system", contending that he was a philosopher of nature, and that his teaching was a simple method. "Every phase of being and body, of thought and language, must be divided according to this system of threes. In reading a selection, or studying a part, the great question is whether it is predominately moral, vital, or mental."[1] He measured everything by a chart, using the three elements of the human being as life, mind, and soul.

To begin with, this is artificial. Secondly, it is a system, in spite of the author's hate for that word, and when a system is used as an art it becomes mechanical. In the third place it is not based on the truths. It is not right to say that every thing is fundamentally a trinity. Thus the Delsarte School, or Speculative School, almost belongs with the Mechanical School.

Of course, there are other small school built upon individual methods. Some teachers combine elements from several systems, but all the leading methods fall under these four schools.

It must be admitted, however, that there is truth in each method. The truth in imitation is that the feelings toward art and expression are awakened by the observation of expression in others. The truth in the mechanical method is the analysis of the mechanism of [illegible]

The truth in the impulsive method is that every soul has impulses which must be studied, practiced, and obeyed. In the speculative school, the progress of Delsarte can hardly be estimated by the methods that pass under his name. This emphasis on fundamentals, coordination of the body in unity for perfect expression, developement of the body, the influence of the body as a whole on the voice, and the study of the laws of universal art are all of great importance.

The best interpreters have discarded most of the old ideas, and kept a few of the fundamentals. Emerson often said, "We are all poets when we read a poem well."(1) To read a poem well the reader must understand the thought, feeling, imagination, and personality of the author. He must be wholly in sympathy with his sybject. A good reading requires the cooperation of the reader and poet, and without being entirely convinced with the author's [illegible] true interpretation.

[illegible] said," Interpretation is a living art, -- the art of expressing by voice and body what one feels, thinks, and remembers. Training in this art includes self-study, nature, study, art study, thought study, and world study; and the student must bring to it simplicity, faith, earnestness, and a genuine desire for self-development." (4)

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ARE EMOTIONS INNATE OR LEARNED?

A report given by

Mrs. J. L. Oubre

July 11, 1935

ARE EMOTIONS INNATE OR LEARNED?

There is nothing more difficult than to formulate a clear and universally acceptable definition of a mental phenomena, especially of the phenomena subjectively experienced, such as emotions and instincts.

Aristotle was the first great scholar to write extensively of emotions. From the Greek times until the nineteenth century, most of the scientific interest was confined to a study of the face. We find that Porta published, in 1586, De Humana Physiognomia, and Juan Huarte published Examen des Esprite Propres Aux Science about the same time.

However, within the nineteenth century we find a list of well-known names: Bell, ~~Nimost~~ Wundt, James, Spencer, Kant, and many others, adding interesting and specific information to aid in the explanation of some of the phenomena of physical expression, with bodily expression the basic fact of emotion.

After much library research, it was found that psychologists agree, in a general way, that there are three primary emotions: love, rage, and fear, love being an inclusively relaxed emotion, fear being a picture of receding repulsion, anger being a picture of aggressive contraction. Anger and fear are both tense.

They also agree that at least the roots of these three primary emotions are innate.

The first edition of Bell's Anatomy of Expression was published in 1806. He wanted to verify his principles of criticism in art by studying the works of great masters in painting and sculpture in Italy. This he did. The following is quoted from his fifth edition which was published in 1865, twenty-two years after his death:

> "By emotions are meant certain changes or affections of the mind as grief, joy, astonishment, etc. That such states or conditions of the mind should any way pertain to the body, may not, perhaps, be willingly admitted, unless we take along with us the idea of sense as light, sound or taste are generated by organs of the senses and not by anything received and conveyed by them to the sensorium."

Bell, - Anatomy and Expression, Essay III, p. 84

He discusses at length the heart being one of our most sentitive organs - not from touch, but sensitive to glandular reactions or emotions.

Mr. Spencer says, "As forms of thought lie latent in each newly-born individual, are vaguely disclosed along with the first individual experience, and gradually made definite by multiplication of such individual experiences; so the forms of feeling or emotion likewise lying latent are feebly awakened by presentation of external circumstances to which they refer and gradually gain that degree of distinctness which they are capable of, though often repeated presentations of circumstances

of personal experience plus the vague body of emotion, which the baby has inherited assumes a more intelligible form."

Spencer, 1853, Principles of Psychology, Chapter VIII, p. 493.

James says, "My theory is that bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as may occur is emotion. Common sense says, we lose our fortune, are sorry and weep; we meet a hare and are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defined says that this order of sequence is incorrect, that the unmental state is not immediately induced by the other, that the bodily manifestation must first be interposed between, and that the more rational statement is that we feel sorry because we cry. Without the bodily states following on perception the latter would be purely cognitive in form destitute of emotional warmth."

The vital point of my theory is: "If we fancy some strong emotion and then try to abstract from our consciousness of it all the feeling of its bodily symptoms, we have nothing behind."

James - Principles of Psychology, Vol. II, Chap. XXV, pp. 449-51.

Darwin's three principles of expression are

(1) The principle of serviceable, associated habits.

(2) The principle of antithesis.

(3) The direct action of the nervous system.

He says that the chief expressive actions exhibited by man and by the lower animals are innate or inherited - they have not been learned by the individual.

Darwin - 1872 - The Expression of the Emotions in Man and Animals, Summary, pp. 372-73.

Watson says, "Emotions to be understood must have a totality of situation - the idea, the complete bodily pattern, the reaction of principals, the action from stimuli to termination.

Watson - Psychologist from the Standpoint of a Behaviorist.

Walter B. Cannon measures emotion by glandular reactions, which mean inherited or innate traits.

W. B. Cannon - Bodily Changes in Pain, Hunger, Fear, and Rage.

Mandesley says, "Emotions are intensified and made definite by bodily action."

Mandesley - The Psychology of the Mind, pp. 387-88, 1876.

Carr says, "The various emotions can be readily identified and defined only in terms of the behavior situation in which they occur."

Carr - Psychology, p. 278, 1925.

Alfred Adler says, "Affects and emotions are accentuations of character traits. Emotions are psychic movements which possess a definite time boundary."

Alfred Adler - Understanding Human Nature, p. 265-278.

Sandiford says, "Emotions are innate responses (hereditary pattern reactions) essentially chaotic in their nature involving the whole body in their expression, but particularly the glandular and viceral systems and their nervous connections, and having intimate relationship with the preservation of the individual or the specie."

Peter Sandiford - Educational Psychology, Chapter VII, p. 129.

One of the most interesting and illuminating articles on emotions is by Dr. Knight Dunlap, in which he says, "I must confess that a great deal of what is said about emotions passes over my head. It is probable that the psychologists who discuss this topic are talking about something, and I am willing to admit that they are; but if so, then that 'something' is something in which I am not interested, except as a matter of folklore or mythology.

Hypogriffs, satyrs, nymphs, and all the other creatures of mythology, of course, are 'something'; and I am afraid that the emotions most psychologists talk about belong with them. . . . I have spoken of objects and occurrences as demonstrable. By that I mean that they are capable of observation in various ways, and in particular by those methods, indirect though they may be, called physical and chemical. We should not be satisfied with the reality of movement of an object, an occurrence, unless that movement could be registered. In the same way, we should not be satisfied with any object of experience unless it is capable of physical or chemical registration. The emotions of which many psychologists and most physiologists talk about are not facts of this kind, hence I have no interest in them. The visceral occurrences are demonstrable; hence, when the term emotion is used, these things are meant."

Knight Dunlap - "Feeling and Emotion," The Wittenberg Symposium by Thirty-four Psychologists, ed. by Charles Murchenson (Clark University Press, 1928), p. 150

Therefore, let us conclude that the roots of emotions are innate, hereditary pattern reactions, and to be understood must have a totality of situation: The idea, the complete bodily pattern, the reaction of principals, the action from stimuli to termination. We can call them occurrences because they are demonstrable although of innate origin.

A Term Report on

"Technique In Dramatic Art"
Revised Edition, MacMillan Company,
New York, 1934

by

Halliam Bosworth

by

Milton Wiksell

T. Earl Pardoe
Instructor.

INTRODUCTION

Introduction.

Mr. Bosworth sets out in this book to assemble and classify certain rudimentary principles that concern the technique of acting and play production. The book is a very definite and practical one and if the young dramatist is distressed by a feeling that drama is mechanistic he should reflect that all the things which Mr. Bosworth advises are being done daily on all the stages of the world.

Mr. Bosworth has long been connected with the professional stage and offers first hand information which will undoubtedly be much sought after by all who have anything to do with play acting or production.

From the point of view of acting this book is invaluable. There is a wealth of information and good sense in store for the one who desires knowledge in the field of acting.

Perhaps the best way to know the theatre, of course, is to see it from the front and to labor in it behind the scenes. In the meantime, Mr. Bosworth's book will prove an excellent foundation for the understanding which every player must develop for himself day by day.

TECHNIQUE IN DRAMATIC ART

Acting is a trade in the sense that many technical methods and terms are employed; it is a science in that it requires much knowledge of human nature and the laws of life; and finally, it is an art in that it requires the expression of the highest element of human nature, the emotions of the soul. The art of acting cannot, therefore, find its most perfect expression without the study of human nature, and the technical methods of expressing it.

"All the expressions of life, whether they lie along lines of art, science, or artisanship, are governed by basic laws. The correct expression of these laws should involve a knowledge of principles, whether that knowledge be intuitional or acquired through experience."

The principal theme of drama has been the conflict of good and evil, with the ultimate triumph of good over evil, thus following a law of life. In the past generation the theatre has shown a tendency to depart from this more or less conventional type, and there has sprung up a new style of drama which may be called "the drama of ideas." Henrik

Ibsen is said to have been the pioneer in this field.

These plays of ideas are constructed around central themes which reflect some of the social problems or conditions of our modern life. The public welcomes the opportunity to hear these things discussed, and the authors seek to combine that discussion with enjoyable entertainment.

"The modern sociological, or intellectual, play is the easiest to act in all dramatic literature. At the opposite extreme stand the plays of Shakespeare. Since it is comparatively easy to perform, the intellectual play is admirably suited to performances by amateurs."

At the present time a new form of drama has made its appearance. Though the future cannot be foretold, it is possible that in view of the present unrest in economic affairs this form of drama may gain a good deal of prominence. This type of drama may be termed the drama of class struggle.

Mr. Bosworth believes in starting the student at the very beginning, so in this book he will give some of the simplest of details.

The actor should be comfortable at all times. It is best that when two actors stand in conversation that they should be at a certain distance from each other. It is impossible to have free bodily movement when the actor is crowded. Another reason for maintaining the proper distance is that the line of vision of those sitting in the front rows at the extreme right or left is disturbed when the actors stand too close together. Sometimes it is necessary though to stand close to one another as in the embrace or when shaking hands.

The centre of the stage is in the middle of an imaginary line drawn from side to side, and is nearer to the footlights than to the back wall of the "set". "The actor must play in the centre of the stage unless he has some definite reason to be somewhere".

When two persons play in the centre, the central point is just between them; when three persons play in this manner, the middle one is at the exact centre, while the other two are at right centre and left centre respectively. If any more persons are added they take their place at the right or left of this group.

Definite action is practically all action which relates to the story of the play; it is a part of stage direction and is outlined for the actor by the stage director. The actor, also, may create some of it in the development of his performance, but it must be done in a positive way, so as to show direct intention on his part. When a performance has not been sufficiently rehearsed it shows that much of the action which should have been definite is indefinite, because the actors are not sure of what they are to do. No argument need be offered for thorough rehearsal.

The subject on "What shall I do with my hands?" is an interesting one to me. Mr. Bosworth says, "Do anything, but by all means be comfortable." One of the first things the actor should try to learn is to learn to be comfortable when the hands are at the sides, an accomplishment which is not as easy as it appears. Stage detectives like to put their thumbs in their vests; it seems characteristic of certain classes of people, and is popular with actors to express pomposity. Hands held at the sides for long at a time in most cases look awkward. But in "Peace on Earth" an actor held his hands at his sides during an entire scene and looked perfectly natural in so doing.

"The principle of turning outward from another actor, or inward toward him, which was mentioned in Chapter I, depends on the nearest route to the objective." The preferable foot with which to start walking with is always the one nearer to the objective point. In general, he should not back away when he is supposed to go definitely. Sometimes, in order to reach an objective point, to turn to the left or the right is equally convenient.

When an actor has to speak off stage, the scenery which intervenes between him and the audience tends to drown the sound of his voice. The voice must be raised in this case so that the audience will be able to understand him.

"The expression "anticipating cues" means that an actor must take a cue ahead of the actual cue on which he begins some action or speech; he must anticipate his real cue." In order to do this he must know the dialogue that precedes his actual cue. A lack of this sense is one of the greatest faults in many amateur performances, and is a primary evidence of inexperience. This causes many plays to drag, and to lack the brightness and vigor of professional acting.

The actor should sense the approach of each cue, though he may not actually know the preceding lines. The anticipation of cues if very necessary in the parts of butlers and other servants. These people have to come on and announce the arrival of visitors, or that dinner is served, and so forth. It is very necessary then to start ahead of time to get to a position as the one described above. A slow butler, or other actor for this matter can do a lot of damage to a play.

"The "psychological moment" indicates that moment when each character shall begin to speak, or shall start upon some action." The actor should not speak so quickly on the preceding speech so that his speech comes almost simultanesously with last words of the other character. This contributes to an imperfect performance, and is not true to life. "With the exception of pauses, the "psychological moment" is just long enough for the second character to take a breath."

Whether an actor shall speak directly to the person for whom a speech is intended, or whether he may deliver the speech wile engaged in some action which accompanies it, and without looking directly at the person, depends upon the nature of the speech.

"Perfect repose is a valuable asset in the art of acting. It comes to some actors only after years of experience, when advancing age has made them sparing of action, and their movements slow." Of all violations of repose, movement of the head is the most common. Acting uses not only the voice, but every member of the body as well. All movements of the head must have a definite meaning, or accompany some emotion which tends to embellish the actor's work.

An inexperienced actor at the beginning is likely in studying his part to learn completely one speech after another which is not a good method. The best system perhaps is when the actor naturally reads the entire part first to acquaint him with the entire part first. As a rule, ten sides are enough to take at a time, or the whole first act if this does not include more than twelve or fifteen sides. The actor reads to himself the first cue and the first speech, always reading the cue with the speech to establish the connection in his mind, then the next cue and the next speech, and so on. After having repeated the process six or seven times a simple method is to take a card and hold it over the speech while disclosing the cue, and gradually to move the paper down the page from cue to cue with a glance at the lines when required.

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"In so far as ispossible the theatre must reflect life as it is; and acting, therefore, must seek to be exact in that reflection." The theatre may be like real life in one respect and again unlike it in another. Where it is unlike real life we must fill in that deficiency with artificial means. The actor who is supposed to listen must seem to do so. But at times there may be a situation in which he is supposed to be inattentive.

When we observe the principle of attention, the eye is the most important feature of the body which we must bring into play. Thought in a large sense is expressed principally in the eyes, and therefore, if the attention of the mind is directed toward the words of another, the eyes must be properly focused on that person and be at rest there.

After the actor has delivered his line and its effect has been registered on the audience, he simply gets out of the picture. He must, however, remain in character at all times. A play can easily be ruined by too much distraction on the part of the silent actor.

The actor is separated from the audience by a platform along the front of which is a row of strong lights; and this separation isolates him in a little world of his own. He bends his effort toward espressing what seems, on analysis, to be actually true to life. The fourth wall, however, constantly intervenes to defeatthis purpose. Because of the fourth wall principle the actor must conform to certain laws regarding it.

The actor finds the fourth wall principle difficult to treat in his individual performance. He may look toward the audience but never at it, and must not focus his gaze on any person there.

"The modern school pays little attention to gesture, allows all mannerism to be considered natural and to pass without complaint. The manner of his gesture, whatever it may be, is held to be a part of that method, and tends to accentuate his personality rather than detract from it."

Art is graceful, and the actor should try to express it as gracefully as possible. He cannot do this if he neglects the principles of gesture more than other phases of his work. When the mind is moved by emotion, the body reacts to that emotion, and expresses it physically in gesture.

"The best art expresses itself to the full, and the best actors, when the need arises, express their gestures fully and to the limit of length. Any emotion must be preceded by a thought or idea, and this has its seat in the mind."

An important thing to observe regarding gesture is the full lenght movement. The actor though should use no gestures unless they have a meaning and a purpose. The purpose of the gesture is to accentuate an emotion. To classify gesture broadly, we may understand it as all movements of the members of the body, whether the hands, the feet, the head, or other parts, when used to accompany and emphasize the emotions.

Actors generally concede that it is harder to act in comedies than in serious plays, because the comedy effects depend largely upon the methods used by the actor, and these he must constantly watch. The best effects in comedy often require more than one person if they are to be entirely true to life. The actor, should devote himself in comedy, as in other phases of his work, to the good of the performance as a whole, and not to his own self-interest.

The audience's laughter will cause a lapse in action and the actors must wait without motion until the laughter ends and enables them to be heard, when they may continue the performance. This is called "holding the picture."

"A dramatic entertainment is made up of words and actions, with accompanying spaces between the words, between the words and the actions, and between the actions." A play should be spaced with judicious pauses, always with regard to the logic of their use, to express the varied moods of the play and in order that the play may not suffer from an unvaried monotony.

The element of the pause pertains mostly to the feelings; in many instances it presents an emotion which the actor seems to feel rather than outwardly expresses. When a pause is made it must be filled with an idea toward which the attention of the audience is directed. A pause may hold the audience in a tension, an anticipation, or a state of expectancy. Certain pauses may add emphasis and weight to the speeches that follow.

A character often makes a pause when he sees something which seems to belie his sight. A person often makes a pause, also, when he needs time to realize the full import of another's words. A pause is necessary to mark the transition between two different moods in the same speech. They are very necessary in the telephone conversation.

The actor uses the art of reading entirely in the intellectual interpretation of his role. He doesn't learn to read his lines through any physical action, nor through inspirational feeling. "We will say that reading is that interpretation of the author's lines which shall first bring out the true meaning which the author intended."

"Climax resembles climbing to the top of a hill, and anti-climax descending the hill on the other side. The principle of climax enters constantly into all the expressions of life." Climax may have different forms since it may be expressed in words, or in ideas alone.

A four-act play generally has its big dramatic climax at the end of the third act. Usually strong climaxes in plays are at the ends of the acts. The curtain then descends on the stress of some high emotion. "Climax, then, is the highest point reached in any section of a dramatic performance, in any part of a scene, or in any part of a speech."

"Varying degrees of tempo are necessary in all plays, in different scenes, sections of scenes, or speeches." Some critics of the theatre go so far as to assert that a sense of rhythm is the underlying secret of acting.

Correct tempo and command of rhythm maintain attention. The steady uninterrupted flow of lines may hold an audience in tension. The psychological moment for picking up a cue has a strong relation to tempo and rhythm; for in the passage from one speech to another in separate mouths tempo and rhythm can be maintained or, through the halting progression of the scene, they can be disturbed.

Speed should not be applied to an entire play without regard to the separate moods and qualities of the scenes. Correct tempo is very necessary for the production of true climax. A brisk tempo goes well in farce. A slower tempo would be better for other occasions.

There is no more important element in the whole field of dramatic art than cooperation. Cooperation in the theatre, as implied in the name, does not relate to the individual performance, but to ensemble effects, considering the performance as a whole. The "star system" does not always have an injurious effect upon the principle of cooperation, but in many cases the star system does abuse this principle.

Many stars are individualists in the strictest sense, and subordinate all the effects of a play to their own prominence and advantage. "The object of cooperation, then, is to produce a finished product in which, as in an Italian mosaic, no one piece stands out alone, but in which each is fitted to another to present a perfect whole."

The "perfect" actor should have a beautifully modulated voice, rich in tone, and in which all the expressions of love and romance could be found. His diction and elocution, also, would be faultless. He should also have an almost indefinable quality which, if a definition were attempted, might be called the power of suggestim. He should be inherently a gentlemen with generous culture and refinement. In action and gesture he should express the utmost grace and be entirely at ease at all times.

The work of directorship is the most important in the theatre. The successful director has often been himself an actor. He understands the needs of the actor. His position is one of perspective and he sees the picture in full.

"By the very nature of his work, the director is creative along with the author and the actors; all work creatively in that evolutionary progression we have mentioned." In producing a play the director is permitted some liberties in respect to rearrangement or elimination of the author's lines, or, for sake of technical requirements, he should be allowed to introduce his own should the author not be present to write them himself."

"The actor who said, "You can't learn acting from books", referred to the soul of acting. But the principles, the technique of these principles, and the "tricks of the trade", can be imparted by word of mouth or printed in books, and acquired by the amateur as well as the professional actor."

A BRIEF OUTLINE OF
THE EXPRESSION OF THE EMOTIONS IN MAN AND ANIMALS
BY
CHARLES DARWIN

Rex Smelser

This outline was made in the hope that some person might see it and recognize the value of reading the entire book or some section thereof. It was not intended that this outline in itself should contain any particular enlightenment.

Chapters I, II, III

THE GENERAL PRINCIPLES OF EXPRESSION

I. The three principles of expression
   - A. Serviceable associated habits
   - B. Antithesis
   - C. Actions due to the constitution of the nervous system independently from the first of the will, and independently to a certain extent of habit.

II. The first principle
   - A. The force of habit
   - B. Inheritance
   - C. Associated habitual movements in man
   - D. Reflex actions
   - E. Passage of habits into reflex actions
   - F. Associated habitual movements in lower animals

III. The second principle
   - A. Opposite state of mind---non-service movements
   - B. Examples of dog and cat
     1. Reactions under different stimulae
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DUALISM AND GESTALT PSYCHOLOGY
Grace A. De Laguna
Byron Mawr College

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Mary Woolley

DUALISM AND GESTALT PSYCHOLOGY

Grace A. De Laguna
Byron Mawr College

This article is a discussion of the difficulties and inconsistancies of some of the Gestalt theories as advocated by Köhler and his associates.

Köhler's attack on the present psychological theories is notable because it is backed by rich experimental achievement and by a procedure based on new theoretical presuppositions. He condems equally both introspection and behaviorism.

Behaviorism is justified, in his view, in so far as it attacks the method of introspection as actually practiced, and the results it has attained. The real difficulty, Köhler urges, is not the inherent futility of attempting to observe direct experience as such, but the whole set of theoretical presuppositions as to what constitutes direct experience. These presuppositions are at fault because they permit the psychologist who accepts them to find only discrete elements when he uses introspection. In his opinion, that which leads behaviorists to condemn all observation and discription of direct experience is his narrow and one sided epistemological puerism.

Grace A. De Laguna feels he is justified in raising this epistomological issue, but that his manner of settling it is far rom satisfactory to both science and philosophy. The position he takes commits him to all the dangers of bifrucation.

Köhler's argument isthat scientific knowledge rests upon direct experience and upon the acceptance of an outer world of things, people, and events which are somehow

distinguished from an inner world of feelings, memories, intensions etc.

But physical science does not deal with the outer world of direct experience. It substitutes for it another world of objects and events totally different from those actually observed by us. This is necessary because the world is full of naive inconsistancies and contradictions. Also because of the fact of the dependence of direct experience of the physiological processess within the organism. Although these are initiated by influences exerted by physical objects on organism "there is no possibility of identifying the finaly product 'things and their changes' as I have them in immediate experience with those physical objects from which the influence came." (Gun and wound)

His argument against behaviorism is this: that as the physical scientist is constrained to postulate a world of physical objects lying beyond the reach of possible experience, so the psychologist is equally constrained to postulate the direct experience of other persons dispite its inaccessibility to his own observation.

His definition for direct experience is that it rests on the observation and acceptance of the outer world of things, people, ect. He then gives the example of three people preceiving the galvanometer. One may see color, other may see the hard solid substance, but the third sees it not as a solid thing, but as a mass of living moving electrons, so it is neither hard or soft.

"But surely these facts, do not compel us to conclude with Kohler, or even excuse him for concluding--that the colored, hard, solid galvanometer which we observe is one object, and the swarm of electrons, which we compose, is a different object. Hardness and solidity really belong to the galvanometer as its properties, proviso: relatively to a given process." Miss Laguna.

The developement of science involves the correction of common sense from which it springs. The qualities and properties which we naively take as absolute characteristics of things it discovers to be relative to what they call platforms of preception.

"It would be an intellectual suicide to deny a place in the large order of nature to the qualities and properties of direct experience. The reason for sharp dualism between direct experience and science is not found in the developement of physical science taken by itself. What makes the dualism inevitable to Köhler's thought is the dependence of direct experience upon physiological processes. Köhler fails to push the argument from its physiological dependence to a logical conclusion. If it is not only my direct experience which is dependent on physiological processes, but my indirect experience as well, including those very inferences of my scientific thought by which the world of science is obtained", says Miss De Laguna. Kohler refuses to follow the argument lest he be involved in a vicious circle. So the statement for argument remains, that things and events of direct experience are the products of physiological processes within the

the organism. (The epistemological issue, or what is direct experience?)

Secondly Kohler condems behaviorism both because of its adherence to the machine theory--which it shares with current introspectionism--and because of its refusal to deal with direct experience.

The term behaviorism, has apparently become applicable only to that doctrine which refuses scientific value in intropection and, that human behavior in all its organization has been built up from a conditioned reflex.

"But there is another behaviorism not considered by Kohler," says Grace A. De Laguna,"and which differs sharply from introspectionism as understood." This view has much in common with Gestalt theory. It is stated as follows. "Psychology is not concerned with consciousness or experience as something ontologically distinct from the functioning of the organism as it is observable by natural science in its relations to the world about it. A feeling or a thought is not an 'inner' reality essentially hiddenfrom all but the subject, the relations of which to the outer public reality are merely external. OUR INNER MOST FEELINGS AND EXPERIENCES CAN BE KNOWN, EVEN BY OURSELVES (identified recognized) ONLY THROUGH RELATIONS THEY HAVE TO OBJECTIVE ORDER COMMON TO OURSELVES AND OTHERS."

Introspection has its place in psychology but it is not an independent method. It is valuable only as it aids the observation of behavior.

Koffka's argument against behaviorism is "that psychology must use discriptive concepts as well as functional concepts. (Discriptive applies to facts that can be established by a single person; functional applies to actual, real processes which anyone can determine) He talks in terms of traditional dualism and accepts the distinction between inner experience and outer reality. Later he shows that discriptional and functional processes are by no means independent of each other. Koffka's final outcome of psycho-physical method (Which makes use of both introspectionand observation of behavior) is a law expressed in terms of functional concept.

"Both Köhler and Koffka are so concerned against maintaining against narrow-behaviorism, that introspection has a real place in psychological science, that they do not recognize the full significance of the methodological facts they cite. If true introspectionism has scientific value only so far as results are determined with reference to objective observation, then there can be no dualism so far as psychology is concerned (between appearance and reality) which Köhler and Koffka profess to see in psychological views, is, according to Miss Nagunda, "a mere vestigial inheritance having no proper function in the real economy of Gestalttheori."

The third issue is one of the most improtant features of Gestalttheorie. It is the conception of animal and human behavior as containing characteristic configurations. Configurations are found to exist not merely in the subjective content of experience, but in the objectively observable behavior of living beings.

Gestalt theorists have shown that we distinguish configurations in a rough and ready way in our common intercourse with one another. The child recognises the smile before he is conscious of the lips turning up etc. It is from such common observation that psychological science must start and such distictions it must clarify and define by scientific prodeedure. Köhler's experements with the chimpanzees are valuable because tney are a conscious and deliberate attempt to carry out this sort of analysis.

One reason for the imaturaty of psychology is the philosophical dualism, a heretige from the 17th century. The idea that mind is a reality apart from matter: That the soul controls mechanical processes of organism. "Because behavior is observable we say it is a physical reality. It is this theoretical presupposition which blinds us as scientists to the forms and figures which the pattern of living behavior displays. Yet subjective anger, fear, etc., are as closely related to the observable behavior of human beings as is the physical strain or momentum of the observable behavior of stones." This view has much in common with Köhler's view ~~view~~ expressed in Gestalt psychology.

Some of the divergenceis are discussed in the fol owing paragraphs:

1..He fails to push his argument to a logic l conclusion and to draw full theoretic l consequences which are implied in his own positive proceedure.

II. His attack on the so called constancy of hypothesis is of great importance. (The supposition that definite elements of experience are co related with the discharge of particular group cells in the vervous system, and the whole conception of experience as comeno a complex of elementry processes, has exerted a great influence on psychology.) Gestalt theorists says there is no such a one!

Köhler would substitute the dynamical theory for the out-grown machine theory of the nervous system. How successful this theory will be remains to be seen. Miss De Laguna calls to our attention the difficulties which will arise in the association of the dynamical theory of the nervous system with the psycho-physical parallelism.

"Is there a 'brain field', the dynamic condition of which if it could be directly studied, would be found to picture in representative fashion the total content of experience as a related whole of objects, events and feelings?"

Köhler's points of argument are: Behaviorism has failed conspicuously to explain human behavior. First through its neglect to explain direct experience and secondly to blindness of the machine theory it adopts as a means of explaining the actually observed characteristics of behavior. The hypothesis of dynamical parallelism is avowedly assumed as a step in the explanation of behavior. Direct experience itself can have no influence on behavior, since, in Köhler's view, it belongs to a different order of reality; but if it corresponds in its structural organization of physiological processes in the

ner ous system, the corresponding order of these may, in particular cases, be inferred and used as a hypothetical explanation of resultant behavior.

Köhler has not gone far in carrying out experiments in dynamical parallelism to throw light on the problems of behavior.

He does devote much attention to the sensory organization of the visual field. He says sensory organization and motor organization belong together as correlative phases of a total functional system. But it is just this fact which the particular physiological suggestions he offers fail to take account of. Visual organization is said to be conditioned by the dynamical configurations of localized brain field, which pictures or represents it. But how in any specific case, this assumed dynamical configuration within the sensory brain field actually functions in the control of the organism, no attempt is made to explain. Example: We hear the crackling of fire, feel warmth of the fire, smell the smoke odors, all perceived are coming from the fire. How does the occurrence of different sensory processes, one psychological 'brain field', explain our preception of sights, sounds and smells in one space; or how do the dynamo-geometrical relations between the sensory processes in this brain field explain the particular spatial distribution of objects and events we perceive? Only as far as the cortical distribution accounts for the direction of behavior.

A point which Köhler is anxious to make against simplified behaviorism is that sensory organization is given and is not dependent on attitude. It is incontestable that the total organization of the preceptual field is determined with reference to the general attitude or 'set' of the organist.

Kohler talks like any mechanist of the dependence of reproduction of 'traces' but he gives no least hint regarding the physiological basis of these, and the problem remains how they are to be incorporated in his dynamical theory.

Koffka points out in "The Growth of the Mind" that the expressions of human faces, such as friendliness or anger are relatively primative formula to the infant, are much earlier recognised than the square or circle; that eye, ear, nose, etc. taken alone he fails to recognize when he would easily recognize them as parts of a person. This example shows the incompetence of the dynamical theory to account for the sensory phenomena except as it is used with the closest reference to behavior.

The fourth issue is an assumption of Köhler's dynamical parallelism, that experience is immediately correlated with the dynamical processes occuring in a limited brain field. It is the organization of this local field which 'pictures' or represents, the organization of expereince. He urges that psychology cannot be developed simply as a science of direct experiences. "For the developement of that science", he writes, "the field of actual experience alone is inadequate, especially when compared with the totality of those processes in the vervous system, a few of which are at each moment

accompanied by experience, but all of which seem to be more or less independent." In this passage Kohler states that "processes underlying experience are merely a dynamical province of a much larger functional whole" merely to explain the felt incompleteness of experience.

The criticism of this theory is that Kohler fails to draw the full conclusion whichis involved in the facts which he points out. For it is not merely the felt incompleteness and direction of experience that is to be interpreted with reference to the fact "the processes underlying experience are merely a dynamical province of a much larger functional whole," but the whole content of experience in its total organization.

("The story of the chess onlooker.) He watches the 'movements' in a given point, but it is likely that it is not the "movements" he sees but only the 'moves.'

"Now the aim of psychologists is to analize and describe what is going on in the brainfield, not as 'movements' or as 'dynamical stresses' but rather as moves in the larger game which the organism is playing in the world in which it lives. For experience depends on such 'moves' and not on the 'movements' or 'dynamical processes' which, physically speaking bring them about. If the full implications of this distinction which I have thus suggested were worked out, they would, I think, carry us on beyond both psychophysical parallelism and the underlying dualism of reality and the 'phenomenal' world of experience."

The fifth issue is as follows. "It is recognized that there is a constant interplay between the 'set' of organism

(whether in hunger, sexual excitement, or absorption in a task) and the organization of the perception field". But this is interpreted as an experienced tension between the 'self' and 'objects' or physologically, as those underlying 'objective' experience, on the one hand and those underlying subjective experience on the other hand." Here it appears as a 'bipolar' organization in which we are aware of self as directed toward or away from something else.

"In love must one experience this obstracting state as a felt tension between self and some one else, in the self conscious fashion that Kohler assumes? Is not the deepest passion that in which one forgets self and becomes absorbed in the object? Not only physological conditions, but desires, prejudices and interest generally are experienced in terms of qualities they induce in the persons and events about us. "TO BECOME AWARE OF ONESELF AS A SEAT OF EMOTION INVOLVES A WITHDRAWAL FROM ITS OBJECTION, A DIRECTING OF ATTENTION TO ONESELF AND AWAY FROM THE DISTURBING SOURSE."

C O N T R I B U T I O N

OF

SAMUEL S. CURRY, L. H. D.,

TO

THE STUDY OF SPEECH

By

Lon Fay Adams

P R E F A C E

As Speech has attained a definite place in higher education in America, it is only natural that one who has grown up in daily association with graduates of Curry School of Expression, and who studied dramatic interpretation intensely for five years, later attending the School in Boston during the life time of Dr. Curry and Madam Curry, and who has manifested an intense interest in the subject from high school days until the present, should turn back to view the whole achievement of the famous man's life work, with the unprejudiced mind of a student seeking only the truth.

My purpose is only to determine whether or not there are any principles or fundamentals that are still of value to the teacher of Speech and Dramatics in reaching present objectives.

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Research is of little value unless we discover the logical cause, means, and effect. The current text books on Speech, which I have thus far examined, have set forth either the mechanical devices and tricks for using the voice as a means of expression, or have skipped over any definite philosophy by merely giving a number of class lesson plans for the teacher. Some students of this subject have even begun with the illogical assumption that evolution is a fact. This is even more unreasonable for those who call the study Speech. Speech belongs to man alone. Through the ages, no irrational animal has ever conveyed an idea, or thought by means of speech. If an animal had ever possessed an idea it would have developed the faculty to express it. Expression, or Speech, then, is communication, or expression of that which has been impressed upon the mind. The mind, then, is the CAUSE,--that is, "expression is the effect of rational and emotional activity."(1) Thus, the cause of expression is psychic. The means by which we express ideas, or emotions, are physical. They cannot be revealed except through the voice and body of the man. The emotion is directly known only by the subjective consciousness of the one who experiences it. Attention is fundamentally important, as the mind must concentrate upon each successive idea.

Dr. Curry made the following necessary conditions relative to expression:

"If we observe others or ourselves in an attitude of

indifference, we shall perceive that the chest tends downward, but that any excitement causes it to rise; not, however, by bending the back, but by an expansion in all directions. This expresses courage, self-assertion, and life in the individual, not only for voice, but for any expression.

It must be noted that the expansion of the chest, while at the start simultaneous with the act of breathing and the opening of the tone passage, is not changeable like these, but is more sustained, being often kept expanded through sentences and paragraphs.

It is a condition which does not change with the taking of each breath; indeed, it is more a pantomimic than a vocal condition.

.....The expansion of the torso is a fundamental pantomimic expression. It is not a part of the breathing or vocal action but precedes and establishes conditions favorable to voice." (2)

The exercise,which is described at the top of the page following this quotation, was practiced several hours a day by each student of Curry School. Other breathing exercises were earnestly practiced for centering the breathing in the middle of the body. The pupil gradually reaches the point where he can take a great number of sylables on one breath. The beginner must breathe more frequently; hence, he must divide his sentences up into more phrases.

As the whole body must be in unity with the voice and thought, one hour a day was spent in various steps, and pantomimic exercises. The first was always of a set form,

while the second was original with the individual pupil. This was done to music, and in a hall with two sides of mirrors. In the original exercises, the pupil moved to his own rhythm, that is, he went double time to the music, or much slower, according to his own inclination. The value of this sort of pantomimic teaching is that the problem of attention and concentration was practically removed since the pupil created whatever idea he wished. When the mind is dominated by noble ideas or emotions, the weight will naturally tend to swing to the ball of the forward foot, that is, of course, if the body is expanded as mentioned above.

What is the basis of all voice training? "To improve the voice demands attention to the actions of the mind and also to the responsive conditions of the organism. A proper manner of opening the tone passage and of breathing are only the first and the most necessary and conscious conditions." (3) We must distinctly realize that Dr. Curry had in mind classic literature, especially lyrics that express joy, or tenderness, and Shakespeare's dramas. It is impossible to render Shakespeare's characters without a correct breathing habit. Much has been recently said of emotions as studied and explained in the modern materialistic psychology, as being related to expression, or speech. It is necessary right here to separate or distinguish emotion from mere impulse. That expression is centered in the higher faculties of man's soul, is evidenced by the following statement of Dr. Curry, "Expression is subjective as well as objective, and requires no mere study of appearance or even of the philosophy and anatomy of the body,

but a close scrutiny of everything most intimately related to the soul and the soul's activities." (4) This statement shows the influence of Scholastic Philosophy and Rational Psychology, which is taught at Harvard where Dr. Curry was Professor of Oratory before he founded his own school in the Pierce Building, Boston.

That Dr. Curry understood that expression is not mechanical, is set forth in the following quotation: "The idea that a man in speaking is a mere physical machine is the fundamental cause of the bad delivery so prevalent at the present time. Whenever a man thinks that he is simply doing something that will awaken thought in others, without thought in his own mind, not merely a day or a week or a year before, but at the moment he endeavors to convey the thought--or who thinks he can awaken feeling in another's breast when his own is cold--is trying to accomplish an end without legitimate cause or means, and is acting in direct violation of nature's fundamental laws. It is only by a vivid realization of an idea or situation that genuine emotion is stimulated in the speaker's breast. Emotional conditions can be prepared: but the feeling itself can only be a spontaneous realization of the pictorial conception in the mind of speaker at the moment he speaks." (5)

Again, "If all truth comes from within, true expression must do more than give mere bare external facts. There must be some suggestion to awaken activity within." (6)

"Thus, art is no mere skill in technique, no mere superficial polish, no mere amusement, but is most deeply inter-

wined with the human soul and is its only means of manifestation. It is that which shows man to be made in the image of his God, without which he cannot grow nor his nature achieve its ideal." (7)

Through these foregoing statements we see what Dr. Curry's position was on the part the mind plays in expression.

Let us consider emotion. He did not believe that by having the mere signs of emotion, with conscious control of every muscle and movement, one could perform every attitude and movement by conscious will. Nor did he believe that one could act spontaneously and upon wild impulse. He considered man too complex, both from a stand point of psychology and physiology. Notice this statement: "The twinkling of the eye, the subtle motions of the face, the positions of the body, the modulations of the textures of the muscles, the motions and attitudes of the hand, the positions of the body, the color, the modulations and the inflections of the voice, and a hundred unnamable actions, all spring spontaneously from the diffusion over the body of emotional activity springing from the depths of the soul. But they can never be produced by deliberative, conscious action of will in all the plenitude of nature. To endeavor to do so has always made them artificial and unnatural, and the expression mechanical." (8)

When one tells a story spontaneously, the ideas and pictures of the story come to the mind and impress vivid conceptions of situations stimulating the imagination and emotions, and arousing the spontaneous impulses. "Great power of expression is dependent upon power in thought and power of passion." (9)

"No mechanical force, no amount of will, no amount of consciousness, no mere deliberative employment of means to an end, can furnish a substitute for spontaneous diffusion of energy through the whole man." (10) Dr. Curry, in his "Province of Expression", leaves us with the admission that emotion is till not understood. This is probably what suggested the idea of connecting emotions as they are considered in Darwin, Watson, Gates, and other materialists, with the study of dramatic presentation and portrayal. But, this psychology cannot adequately explain the difficulty because it does not admit the higher level of intellect that man possesses above the animal,--the ability to extract the universal idea, and the freedom of the will.

We are all familiar with the fact that educators fought Dr. Curry all during his life time. They accused him of not having originated his own method. Let us examine this statement. He admits, himself, in his "Province of Expression", that although Delsarte's system was the most widely used in America, it was greatly misinterpreted. His disciples taught something far different from what he set forth. His book, which was printed from the notes of a priest he had taught, were translated by one who knew nothing of Delsarte's work. This translation was universally condemned by those who knew the genuine work of the author. Teachers in France did not follow his method. Dr. Curry, because only a native Frenchman is allowed to study in the National School of Acting, secured permission from the French Government to sit in class and take notes. It was thus that he got the genuine French method and introduced it in America. Of course, he

added this knowledge to what ideas he already had in mind. Dr. Curry is thus famous for his having brought the correct interpretation and application of Delsarte to the United States. By this I mean that he understood the method of training that was back of Delsarte's method,--that which was presupposed.

Rush's system tended to place all consciousness upon the voice, Delsarte's upon pantomine. Dr. Curry points out that the Delsarte system was mechanical in that [illegible] he considered the vocal expression resulted from pantomine. He went beyond this and based both voice and pantomine as coming from the cause of expression, namely the mind and soul. Delsarte's system was not founded upon the true observation of nature. That Delsarte was superior to those who preceded him in his work, Dr. Curry generously pointed out. The former placed emphasis upon fundamentals,--actions and combinations, which could correct faults, and develop power. For instance, poise is fundamental, position, accidental. Delsarte worked upon fundamentals of gesture. In other words, Delsarte gave us the ideas of a fundamental NORM of the whole body. Another important point of Delsarte's advance was that pantomine includes the whole body. Delsarte, although making errors in his reasoning, led or suggested to others ideas that lead them to the truth.

Dr. Curry also pointed out the lines along which advance was needed for methods of teaching delivery in speech, expression, or public speaking. The step that he made beyond Delsarte, and which is the most dominant to the pupil of a Curry trained teacher, is as follows: "The so-called Delsarte method, while analyzing the faculties of the soul, yet in the practical work of expression almost if not entirely ignores the action of the

mind as the cause of expression. But it also gives us little if any attention to the voice, and concern itself almost entirely with pantomine."(11)

I now ask the reader to consider the following quotation: "Any artificial method like Rush's system, which endeavors to exaggerate some one little peculiarity of the voice, even though it may be true to the expression or execution of one man in one peculiar emotion, by being made a rule for all emotions and all other actions of the voice, which are intended by nature to be different, can only end in making all one-sided and artificial." (12) This is observing mere effects and not fundamentals. Leland Powers, a product of the Curry School, is designated as having done this very thing with both pantomine and voice. It is needless to say that he thus departed from his former training. Pupils in a play make this method of selecting little peculiarities to distinguish various characters, at once apparent. It makes the play monotonous.

But what were the avenues of further study and research, or rather a searching for methods, set up by Dr. Curry? "Again, there is needed a more definite and careful study of man, not merely of psychology or of physiology, but of the latest phases of physiological-psychology, and not only all these but a deeper and broader study of man as an artistic being. A study, not only of the mind and body, but of the actions of the one upon the other; not only of the imagination, but of the means of developing it, and of its relation to human emotion and of its modes of manifestation. There must be such a study of the whole man as will enable the teacher to recognize both the

conscious and the unconscious elements and the relation of these elements to each other, so as to enable him to adopt such methods as will secure harmonious co-ordination of every faculty of the mind and agent of the body concerned in expression." (13)

He also had sufficient imagination to see expression, or speech as a department in the college and university, where students would be trained not only not to grow one-sided by studying one phase of learning or knowledge, but where his whole mind, soul and body would be developed through expression.

In conclusion, then, let us not cast aside whatever there is of use to us in the future teaching of our new department, "Speech". Let us do justice and honor to the genius who devoted his life untiringly and uncompromisingly to his ideal. Let us comprehend that, had it not been for Dr. Curry who kept expression up to so high an educational and cultural standard, thereby holding unquestioned dominion over all other systems during his life time, we would not have reached our present accomplishment. It is through the dreams and aspirations and sacrifices of such scholars that we stand at the door of a new era,--with the Department of Speech established in and recognized by leading educational institutions of the day, where, before Dr. Curry's work, the so-called elocution was sneered and laughed at as having no place in the field of general education.

Dr Curry was not the first as Steele Mackaye did more or as much. Leland Powers gave the closest interpretation of same

N O T E S

1. Foundations of Expression------S. S. Curry, page 11
2. Ibid, page 90
3. Ibid, page 185
4. Province of Expression---------S. S. Curry, page 23
5. Ibid, page 40
6. Ibid, page 76
7. Ibid, page 76
8. Ibid, page 189
9. Ibid, page 193
10. Ibid, page 197
11. Ibid, page 265
12. Ibid, page 366
13. Ibid, pgae 373

F I N I S

J. B. WATSON'S "BEHAVIORISM"

Chapter VII

EMOTIONS

Nellie Mae Varnado
Speech 119

EMOTIONS
by
J. B. Watson

Taken from J. B. Watson's "Behaviorism"

What emotions are we born with? How do we acquire new ones? How do we lose our old ones? Part I of Chapter VII of Watson's discussion concerns a general survey of the field and some experimental studies. Watson thinks that a vast amount of material written by Freudians, and others lacks a central scientific viewpoint. The behaviorist's study began when genetic studies had begun to bear fruit, and Watson's study was made by applying objective experimental methods. First Watson points out that James's viewpoint has been a set back to the study of emotions. He regrets that James diverged from Darwin. Darwin and Lange emphasized the stimulus arousing the emotional response and the reaction to it. Watson, therefore, agrees with them because they are objective as well as behavioristic. James sought a verbal container into which he could toss every separate emotion or as as he states, "the goose that lays the golden eggs, for then each egg's description is a minor matter". James also said, "bodily changes follow directly the perception of the exciting fact, and our feeling of the same changes as they occur is the emotion". He believed one should study emotions by introspection. James lists what he calls coarser emotions, which include love, grief, fear, and rage, and the subtler emotions, or moral, intellectual, and esthetic emotions. McDougall says every original instinct has a primary emotion coupled with it. An example of this would be the emotion of fear coupled with the instinct of flight. Since

these do not exist as instincts, we do not consider his lists further.

The behaviorist's approach: Observations have shown that adults display a wide group of reactions which we call emotions. For example negroes fear graveyeards; we fear black cats, ladders, etc. The behaviorist finds that objects and situations surrounding people bring out more complex reactions that the efficient use of the object or situation would call for. Again let us take the example of the negro's rabbit foot. To us it means a part to cut and throw away if we are cleaning a rabbit. To the negro it has a different association; it means good luck; it is nursed and taken care of and trusted to bring about a desired happening. If all life situations could be taken and a response worked out scientifically and physiologically, a norm could be reached for everyday behavior, but divergence from the norm would be the rule. The behaviorist studies infants. Tests have been made starting with three year olds. The child is tested alone, with playmates, with parents, etc. Fear is very prevalent in three year olds; also anger. Study includes children reared in hospitals, This does away with varied educational behavior which would have been present if they had been selected at random. Children were observed from birth to first year, some through the second year, and some through the third. When tested with furry animals and even snakes, frogs, etc. non-fear resulted. Watson believes three emotions are hereditary, but he is not sure. We may call them X,Y, and Z or fear, rage, and love. Fear results from loss of support and loud noises. It is present from birth as was shown by jerking the sheet suddenly from under a very young child. Rage results from hampering of bodily movement; and love

from stroking the skin, tickling, rocking and patting. Watson also believes that emotions become complex and numerous by transfer of conditioned emotional responses. An experiment with an infant and rats, dogs, cats, etc. during the process of which the child was conditioned to fear a rat, and later began to fear all furry animals because of transfer of fear and association of the stimulus which caused him to fear the rat with the other animals. From Watson's article I conclude that he believes that three emotions, X,Y,Z are inherited (may call them rage, fear, love). He also believes that our emotional life grows and develops like our other sets of habits, and transfer of emotional associations occurs. So we conclude that emotions are innate in nature (3 at least) and socially acquired.

##

Our reaction

"THRESHOLDS FOR THE PERCEPTION OF DIFFERENCE IN

FACIAL EXPRESSION AND ITS ELEMENTS"

"THRESHOLDS FOR THE PERCEPTION OF DIFFERENCE IN FACIAL EXPRESSION AND ITS ELEMENTS"

By

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Taken from

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Submitted by

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It is possible to perceive the expression of a face as a whole. That is, to see the peculiarities of the contours of the features and to see the curve of lips, lines about the eyes, mouth, forehead, etc.--which are present at the same time. In respect to this, the author of this article asks this question: "Can these expressions be perceived singly; whenever the more general perception is possible," and then he gives an experiment to illustrate it. The problem for the experiment may be stated thus: To investigate the relationship between the thresholds for the perception of differences in facial expression; and those for the perception of differences in certain elements of the expression.

Bühler reports that the difference thresholds for perception of the length of a line are higher than those for the perception of the difference between right angles in which this line forms the varying side.

In this experiment they did not attempt to define "smiling", "frowning", or "neutral" expressions, but a common agreement was made upon the curvature of smiling and frowning, without any instruction upon the point.

Method

Apparatus used: Five sets of cards, A, B, C, D, and E were used. Material A consisted of cards upon which were diagramatic faces. A short straight line 7 mm. long represented the nose. Two horizontal line 14 mm. long represented the mouth. Material for B set differed from A only in that the mouth alone varied. Materials for C consisted of cards upon which there was but a single horizontal

line, in the center of the card. Material for D consisted of cards of Material A, inverted. Material E consisted of the cards of Material B, inverted.

The cards were exposed for a period of 0.18 seconds by means of a whipple tachistoscope. The experiment was carried on from December 17, 1929 to May 21, 1930.

Instructions to each depended upon the curvature and position of lines. For example, instructions to IA: "You will be shown a series of diagrams of faces, each diagram being given but a short exposure. In some of the diagrams the eyes and mouth will be arcs turned upwards at the ends, in others, arcs turned downwards, and in others they will be straight lines. You are to make an immediate judgement for each diagram, reporting the mouth and eyes to be turned upwards, turned downwards or straight, by saying 'up', 'down', or 'straight.' Be sure to make a judgement on each diagram and to state it immediately. I shall say 'ready' a short time before the exposure of each face, and 'now' just as it is about to appear."

The results obtained were eleven difference--thresholds and the results are shown by the table below.

Judgements of Material A under conditions unrestricted as to

Time and Distance

	Subject				
	A	C	H	QT	R
Up	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3,
Down	5,6,7	5,6,7	5,6,7	5,6,7	5,6,7
Straight	4	4	4	4	4
Smile	1,2	1,2,3	1,2,3	1,2,3	1, "Perhaps" 2
Frown	7	5,6,7	5,6,7	5,6,7	7
Neutral	3,4,5,6	4	4	4	3,4,5,6

Learning, as indicated by a downward tendency of the thresholds or by an upward tendency of the precision might be are chiefly, to the general adjustment of S to the conditions of the experiment and to the attainment of greater stability in his criteria of judgement.

By studying the above table, we find that A shows a trend toward greater stability of criteron in the limens curvature, and a much slighter one in the thresholds for expression. C shows a trend toward increased stability for expression which is emphatic. In the case of H, there is a more evident improvement in the criteria for curvature than in those of expression. The tendencies of QT are indecisive. R's criteria for expression show great improvement with the introduction of the full face, but the curvature has a general upward movement.

Conclusions of the article Thresholds for the perception of difference in facial expression and in the curvature of lines were obtained with diagramatic material. A high degree of variability is present in the results.

Practice effect--the tendency toward progressive lowering of the DL--was present, though relatively slight.

The precision in general increased during the course of the experiment, and the increase was greater, though more variable, for curvature than for expression.

The precision, as a rule, was greater for curvature than for expression.

The middle category of the expression judgements (neutral) was found to be more elastic than the middle category of the curvature

judgements (straight).

The DL were lower, on the whole, for material in which three lines varied than for that in which one line varied.

All Ss agreed without instructions upon the direction of curvature present in the 'smile' and in the 'frown' respectively.

For one DL for curvature were consistently lower than those for expression. For another the results were indecisive. For a third, the DL were lower at first for curvature but later for expression. For two Ss, the DL for expression were in general lower than those for curvature; and these two were shown by introspective evidence to have had strong tendencies toward perception of the face as a 'whole.'

In general, the precision for curvature, while greater than that for expression, is also more variable.

My reactions:

The experiment in this article has the earmarks of scientific background. It has completely changed my previous opinion.

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GESTURE AS A MEANS OF EXPRESSION

Submitted for
Term Paper in Speech 119

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GESTURE AS A MEANS OF EXPRESSION

Introduction

Gesture is according to Woolbert and Weaver (14) "That part of the speech code by which communication is accomplished through the visible activity of hands, arms, shoulders, head, and face." Gesture is not something to be added on to speech, but it is an integral part of speech and comes in the total activity of the body. If it does not come from the activity of the whole body it is not effective. Gesture must express ideas and feelings. In short it must be backed by thought.

It is a fact that speech is a complete bodily process. Not the voice alone, but the entire physical makeup communicates thought. Therefore the whole body speaks. We are bound to gesture whether we wish it or not. If we are alive to our work, the impulse to action will be present and show itself in some form. Outstanding authors of the present day maintain that the most important organs in gesture are: the eyes, the face, the hands, the feet, and the body. I shall discuss these in the order named in this article. Of course there are other organs that might be used such as the head, arms, and chest. But the head can be discussed with the face, the arms with the hands, and the chest with the body.

For perfection, these bodily instruments should be put through a considerable amount of practice in order to acquire effective habits.

VVV

The Instruments of Gesture

The Eyes

The eye is the very best instrument of gesture possible. It is at its very best when looking directly into the eyes of the auditors. The speaker who searches the ceiling for cobwebs or fairies or inspirations or messages from above, or who shows his audience only his lids, or who merely stares at the walls beyond their heads; gives the fundamental impression of indirectness, lacks confidence, and shows uncommunicativeness. Two qualities that the speaker should have are: one that forces his audience by the power of his eye, to hold their eyes on him; and the other his increased power arising from knowing what his auditors are thinking. Look into the eyes of men and you stick mental pins into them; look off into empty spaces and you allow them to go to sleep or off wool-gathering. As speech is a struggle for mastery between speaker and listener, it pays to keep a sharp eye on the other party to the contest, and most can be learned about his next move by a sharp watch of his eyes. Since the eyes preceed the face in changing visual positions, they are called the windows of the soul.

A good rule for a speaker is to try so far as possible to give to every single person in the audience sometime during his speech the feeling that he is talking directly to him. This will make it necessary for him to look right at every person several times in the course of his speech.

The poser of the eyes may be noticed in common conversation. So long as the man you are conversing with looks you in the face you cannot help listening to him no matter what nonsense he may speak, but if he looks at the wall or out of the window you are less able to attend to him even if he should speak oracles. The first thing then is to look your congregation in the face. Consider it a duty to get the better of that ill-time bashfulness for if not corrected early it will become habitual.

The Face

Gray, J. Stanley (4) says "The face is the dominant power of expression. With this we supplicate; with this we threaten; with this we soothe; with this we rejoice; with this we triumph; with this we make our submissions; upon this the audience hang; upon this they keep their eyes fixed; this they examine and study before even a word is spoken."

The importance of facial gesture to convey ideas cannot be over-emphasized. None of us use it enough. We usually make our faces a mask behind which we hide the expression we really wish to convey. Facial expression can be easily developed. There are three sets of muscles which control facial expression; the muscles of the eyes and brows, the muscles of the nose and cheeks, and the muscles of the mouth. Just plain exercise of these will develop them, giving greater possibilities of expression. You can become a good speaker without facial expression but you can become a much better speaker after a little development of this emportant factor in communication. As the eyes are windows of the soul, the face can become a window to our meanings if we but try to use it.

An important thing to remember about the face is--don 't let the face express the wrong meaning. If your words are aggressive and animated, don't wear a mask; if your words are moderate, commonplace, don't make movements that can only be accepted as grimaces. If your words suggest gladness, smile; if they are solemn, do not beam or grin; be sober.

In some ways the head is the best of all instruments of gesture. An armless speaker could be very effective in speaking if he knew how to use his head, literally as well as figuratively. The head and face are the center of attention for those who look at and listen to the speaker. When people look at you they really look at your face. What the head and face do cannot possible escape notice. In learning to control your face, it is a good plan to watch the faces of others closely.

Woolbert and Weaver (14)* tells us "Practice before your mirror to make your face flexible and expressive. Again, turn away from the mirror; get your face set to express some definite meaning; then to the mirror and observe your expression making every effort to maintain it while you observe it. Cultivate an expressive face; people do not like to deal with a stolid mask. Be able to tell the truth with facial expression."

Hands

The hands are the most delicately expressive part of the body except the face. The meanings that can be put into the hand movement and position are without limit. There are four general positions which cover the ground excellently for the kind of expression that deals with informing, urging, pleading, and stirring the hearer.

*Op. cit. P. 321

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The four general positions which the hands cover are:

1. The open hand with the palm up--This is used in affirmation, approval, explanation and positive statements.

2. The open hand with the palm down--This is used to deny, to disapprove, to describe, and to emphasize a negative idea.

3. The pointed index finger--The use of this form is quite evident. It points out some specific fact or object.

4. The clenched fist--This gesture is used only when great emphasis is desired. It is the most emphatic form of hand action and should be used only with the most important ideas.

The most important principle of hand action is variety. The constant use of the same form of gesture over and over becomes tiresome and thus detracts from the idea it is supposed to help communicate. Use only that form of action which will help to convey the speech idea and use it only as often as it does help to do this.

Woolbert, Charles Henry (13) asks, "What shall be done with the hands when not engaged in gesturing? There are many easy and comfortable positions they can assume. The simplist and safest is hanging passively at the side; a certain refuge in times of doubt, especially when the occasion is a bit formal. Often one hand can rest partly closed, back to the floor, at the waist-line or a bit higher up. Sometimes it can grasp the coat lapel and not be in the way."

However, a speaker should not let his hands and arms rest in repose throughout a speech. Hayworth, Donald (5) says, "If a speaker develops the habit of clasping his hands in fromt of him or putting them in his pockets he will be likely to go through his whole speech without making a single gesture with his hands."

The arms move in two general planes, perpendicular and lateral. No matter which plane they are in, the arms are doing the right thing if they express the right meaning. For most occasions and for all purposes involving dignity and poise the arms should seldom be extended beyond the top of the head and very seldom beyond an angle of sixty degrees from the side. There is no set rule for this, but Public Address and Interpretation call for a narrower range than Impersonation and Acting.

McGee, John A. (7) says, "In general, arm movements should not be too hurried. The upward stroke should begin before the speaker arrives at the thought which requires emphasis by gesture. The arm should be in position at the exact moment it is required to serve as a punctuating agent. Then it should be allowed to recede to its natural position at the side, neither so rapidly as to attract undue notice, nor so slowly that it seems to hang in mid-air with no purpose."

The Feet

The feet play a big part in the portraying of the thought. Some authors give about four positions of the feet in conveying the thought. The writer has been convinced that there are nine positions of the feet in displaying an emotion through or with gesture. These nine positions are shown in the following table:

	Heel	Middle	Ball
Back (withdrawn)	fatigue worriness	Concentration meditation	defiance
Both (Passive)	servitude respect	rest, repose get ease	Indicision
Front (Vital Activity)	Suspense	Annimation a giving out	Explosive emotions

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Most of the authors fail to discuss the feet in a topic under gesture, but they do give exercises for practice on the feet. These positions of the feet are of vital importance so long as the thought is there or you feel it before assuming the position. The weight is on the heel in one gesture and the weight position is the center of gravity. Therefore, the feet are necessary in assuming positions for gesture to display the thought or emotion.

The movements of the body are absolutely necessary in the use of other organs for gesture. We have found out that gesture is necessary for thought conveyance. Woolbert and Weaver lists the shoulders and does not mention the body in their organs of gesture which has already been quoted. But I shall show how necessary the body or torso is, as a whole in gesture. The movements in speech should be habitual or done unconsciously. If the body is not free to turn, if the feet are fastened to the floor, the speaker as he turns to various parts of his audience, will get into twisted attitudes, which are not only awkward but give a feeling of restraint. There is a constant need of adjustment by changing the position of the feet and shifting the weight. Usually the movements of a speaker are observed by the audience. If he is awkward or slouchy or stiff, the audience will form a bad opinion of the speaker. The most important movement of the body is one to denote a transition or change in thought. When one part of a speech is complete and another part is being taken up, a shift of the speaker's position on the platform will emphasize the change of thought and keep the speaker from seeming to be planted in one place.

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The condition determines the amount of bodily action. An audience composed of active men and women usually demand great activity on the part of the speaker. There are no set rules for the use in action, but the thought and feeling should control the movement.

Some of the authors maintain that one should feel the chest as the center of energy; while later authors hold that it is not. The early writers say that it gives a feeling of buoyancy and easy strength which is most helpful to the gesture impulse. Also one is not likely to feel like gesturing when in a sagging or awkward position.

Conclusion

We have found out that gesture is necessary for speech. Every part of the body says something, and if you do not use it to express the ideas of your speech or attitudes and feelings significantly germane to the speech situation, it will either express something else, or it will exhibit some meaningless mannerism and also furnish a distraction. Therefore, the speaker or actor should learn total bodily meanings for what he has to convey to the audience. In this way gesture is applicable to dramatic art.

The choice and use of gesture should become a habit so that the entire attention can be devoted to the idea of speech. The first time the audience gets a glance at the actor of speaker, they form an impression of him, which remains with them. So he should attempt to make a favorable impression in the beginning. Gray (4)* says, "A real man has confidence in his own ability, holds his head up and his shoulders back, looks his fellowman straight in the eye, and gives the effect of being master of the situation. He stands on both feet, his hands hang naturally at his side, yet at ease.

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*Op. cit. P. 56.

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Finally, in this article the gestures of the eyes, face, hands, feet and body as a whole have been discussed. The writer has attempted to show that there must be thought to use gesture efficiently and these five organs of gesture are vital in displaying the thought.

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The "MASS EMOTION"
as exemplified
in
three plays
by
Georg Kaiser

by

Harry S. Wise

MASS EMOTION

Since that very early time, and before, when man in his simplicity, said that there were four humors[1], it has been the effort of man to study and attempt to interpret on paper "emotions". This attempted understanding of a thing so swift, so changable, and so intangable, has given rise to numerous branches of study--first philosophy, then psychology, then sociology. Each in its turn developing along a definate line of emotion; each finding the field at the same time too broad and too narrow; and each in the end crystalizing into a specific field with more or less definate regional boundaries.

Philosophy early developed away from the strict confines of emotion and more particularly human emotion and developed into a system of thought construction and thought analysis; hence, philosophy lost the basic emotional fire.

Yet, in spite of this, no new science took over the field until the early part of the last century. Then a young science began to raise its head: psychology. Like every new disciple of science, it took unto itself the whole world of emotion, human behavior, and even much of the metaphysical. And like all sciences it digested what it was able and rid itself of that which was too tough to chew. But as is always true with humans, a few pretenders to the throne of human affairs came

[1]"Canterbury Tales" by Chaucer.

to the fore. Thereby, we have that advent of the body of knowledge known as sociology--sociology with its study of group emotions and group behavior, thus compleating the cycle of affairs in the study of humans and their emotions: group to individual to group.

Drama, mirror of humanity, suffered just such a change. It went from the religio-philosophical play, dealing as it did with classes of individuals and their emotions, to the type character of the medieval stage, thence to the individual character study of modern times. The latest in the development is the mass plays written by the more liberal of the present day writers.

As the play reflects the human emotion, so do the emotions reflect the philosophy of the time. So, all through history have the emotions of plays recorded the emotions of thought. But, and here the moderns were stumped, what are the emotions of the masses? Are they the same as those of the individual? Does the mass show all the human emotions? Or does the mass give only the grosser emotions? Should a playwrite standardize by mob reactions? These were questions which greeted the aspiring writer of mass or sociological plays. How was he to describe or portray a scene in a coal strike? Was he to make the mob show emotional unity or discord? He had no standards.

He could not refer to precedent. He must do the whole thing himself. He must watch the masses, check the gamut of their emotions. The decision lay with him. He was not only playwrite and experimenter, but also scientist and sociologist. He had passed the stage of being solely philosopher or psychologist. His was a new field of unexplored wealth, with quicksands on every side. He must make the working mass conscious of itself as a unit. This was a job to test the metal of any man.

From reading Georg Kaiser's three mass plays "Die Koralle", "Gas I", and "Gas II",[2] I have attempted to discover what are the emotions of the mass and then to draw some tentative conclusions.

The three basic emotions are fear, rage, and contentment or love. From these three come all the other emotions of human behavior. Therefore, it is necessary to find whether these are to be found in mass reaction, and if they are found, will they be of the same pattern as are those emotions in individuals.

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[2]All references to the three mass plays of Mr. Kaiser are to be found in "Modern Continental Plays", edited by S. M. Tucker.

Mr. Kaiser apparently believes that the group acts according to the elemental emotions, much as one individual acts. He feels that mass hate or rage is but a multiple expression of the hate or rage of the individual. His contention is stated in the use of the woman to carry on the plot in act IV of "Gas I". In an effort to produce the effect of hate, the same thing is shown in act III of "Gas II".[2]

So it goes with the other elemental emotions. An example of love may be found in the affection of the girl in act IV of "Gas I", for her dead brother.[2] So it goes. So would it go with rage--as in the scene in "I" in which the Billionaire's workmen refuse to help solve the trouble, or in act III, or again in "II" in act III.[2]

But to go on from this into the more complex emotions is to lose oneself. The mass knows only the most elemental of emotions: love, hate or rage, and love or contentment. Beyond these the mass loses its identity and becomes a group of varigated individuals, not a unified group.

Following are the conclusions which I have drawn:

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[2] Tucker

A. Mass emotion is basically elemental.

B. Mass emotion is never static. (Cite act IV of "I" and acts III and IV in "II".)[2]

C. Mass emotion grows in proportion to the intensity and simplicity of an appeal.

D. The finer emotions decrease in proportion to the size of the mob.

Therefore, I conclude, that if Mr. Kaiser is correct, and I have interpreted correctly, the mass play should be based upon simplicity and singleness of emotion in order to be effective. Complexity of emotion should not be attempted. The more complex the greater the risk of failure in making a point.

To sum: a good drama of the masses is essentially simple in its emotional theme; the forte is not delicate shading in the play and interplay of emotions, but rather simple, elemental force and power in the presentation of the three fundamental emotions--love, hate, and fear.

2Tucker

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V38

Clifford Anne King

Speech 119

Term Paper

under

J. Earl Pardoe

Comedy: A delineation of the methods of the technique of comedy on the basis of the affective and the cognitive.

"Comedy," says Dr. Johnson has been particularly unpropitious to definers" — a statement which summarizes the attitude of dramatic critics from Aristotle to Brander Matthews. For laughter — as for tears — there is no single formula." A formula that covers all the comic is of the nature of the enveloping blanket. As soon expect light and air in the folds of the one as point and illumination in the muddlement of the other." (p. 7)

Two divisions of the comic are generally recognized — humor and wit (including satire and irony); but in defining the essential elements of the two and in analyzing their

scientific methods, both writers and critics of the stage have wisely considered only the latter. The reason being that wit, being of the mind alone, has the clarity and sharp outline that tempts to analysis; while humor is of the heart as well as of the head, a combination hard on those that have the pigeon-hole. The union of mind and heart, or of intellect and emotion has ever presented stumbling blocks to the definer.

If this two-fold division be accepted in analyzing the methods of comedy technique, it is apparent that under the emotional must be placed slapstick and the like. These are clearly not of the mind

W+r

That it is an emotional or innate response that calls forth a laugh when a fat man falls, that makes a new-born baby smile is not denied by the psychological searchers into the comic. Farce is another matter; it is neither of the mind nor of the heart; it is the fun of circumstance. Comedy is concerned only with human beings "the way they are; the way they talk; the way they walk;" everything not human is alien to it. Farce is concerned only with what happens to people; it might be called the comedy of events.

Poetic comedy can also be dismissed as pure comedy. It is true that in Shakespeare —

notably in Jacques' speeches – there is a kind of poetry that is frequently confused with humor and is remotely allied to it. Take for example these lines descriptive of time –

"And so, from hour to hour
we ripe and ripe,
And then from hour to hour
we rot and rot,
And thereby hangs a tale."

When Jacques meets the fool who gives these utterance – we have a certain sardonic amusement — but this is certainly not comedy. Why? It arouses not laughter — but thought. It is poetry, not comedy.

The same thing may be said of another type of poetry also often met with in Shakespeare. Mercutio's

speech is an example:

"O! then I see Queen Mab hath
been with you.
She is the fairies' midwife, and
she comes
Drawn with a team of little atomies
Athwart men's noses as they
lie asleep.
Her wagon-spokes made of long
spinners' legs;
The cover, of the wings of grass-
hoppers;
Her traces, of the smallest spider's
web.
And in this state she gallops
night by night
Through lovers' brains and then
they dream of love—

The delicate delightfulness of these

lines may bring a smile, but let not your actor interpret them in the comic spirit. Such lines spring neither from the reason nor the heart, but purely from the fancy. Laughter is too robust for such.

From a purely psychological viewpoint, then, the field of pure comedy falls into two groups - the emotional, or comedy of humor and the intellectual, or comedy of wit. It may be contended, of course, that slapstick and the humor of the vulgar vaudeville type really constitutes a third type - the physical or vital. Since our reactions to this type, however, have all the elements of instinctive emotional response,

I believe we are justified in going it under the comedy of humor.

The first problem of the actor in establishing his methods of comedy technique is to determine what type of comedy he is presenting. A clear conception of this point distinguishes the professional from the amateur - the artist from the "ham". The eminent English wit and critic, George Meredith, once said of Lessing that "he tried his hand at comedy with a sobering effect on spectators." How well might the same thing be said of the self-sufficient egotist who rushes into an interpretation of any comedy role with the blind assurance that all comedy can be

interpreted in the light of his own sense of humor!

A brief and cursory survey of dramatic literature reveals the vast difference between the emotional and the intellectual types. As a starting point let us consider case characters from the two artists whose comedians stand at the two extremes of the two types - Molière and Shakespeare.

The comedy of wit derives from the supreme master of thoughtful laughter - Molière. When Bergson says "The comic arises when a group, silencing emotion and calling only intelligence into play, concentrate upon one of their number" — he is describing

Moliere. Take Tartuffe for example a big, fat man with a very red mouth and a soft cushiony tread and a trick of persuasive speech. What a temptation there might be for an inexperienced actor in creating his character before the footlights to play upon the emotions — to humanize him. And what a mistake it would be! Tartuffe is an artistic creation — he is not a human being, and to typify him for an audience he must be portrayed with detachment - with the clarity of keen, clear, calm reason. He must be presented - not as an individual but as a type — not as a hypocrite, but as the hypocrite. Like

all of Molière's characters he must be consciously presented as a stage figure, not as a real life individual. In comedy such as this, every device of stage technique may be employed quite frankly as technique. This Molière does time and time again. Take M. Jourdain, for instance, receiving his dancing master in night cap and dressing gown, displaying proudly the magnificent waistcoat and "shorts" underneath, and when the dancing master insists that a gentleman must carry a hat in a minuet, not understanding and putting it on top the nightcap, and so dancing the stately measure. An obvious play

for laughter and an instance where Molière borders on comedy of humor. Here the comedy is directed to the eye, not the ear.

When Lord Chesterfield said "Laughter is illiberal and illbred" - he was voicing in a measure the Molière tradition. The thinner the emotional response, the keener the intellect — the greater the swing toward comedy of wit.

Turning now to an even greater artist than Molière, we find a group of characters so rollicking, so irresistible, so elemental in their appeal, that it can truly be said that only great emotional artists can portray them. The three best loved perhaps are

Falstaff; Bottom, the Weaver; and Malvalio. Falstaff's paternal lecture to the prince is high comedy- no one would deny; and it's only purpose it would seem is to amuse. It is gay irresponsible fun. No brilliancy of wit is there and never a hint of satire; only laughter - the laughter of those who love what they laugh at. What a mistake to play this lovable old rascal in the same spirit in which one plays Tartuffe. If we turn the clear light of intellect upon Falstaff he becomes an embodiment of sensual lust - a synonym for fleshly vileness. Such he was not intended to be. He must be

played with a twinkle in his eye. Remember that even the characters in the play laugh at him — a stupid, vain, crest-fallen — but withal lovable fool. As such he is to be interpreted without a trace of moral earnestness. Touch him with the least bit of irony or satire and he becomes self-conscious and unreal. Treat him as Mistress Page herself does. "It has just been sport-fit for a laugh around a country fire." — and you have been true to your Shakespeare.

Or again - there is the immortal Bottom who would act every part in the play -

Bot: "Let me play the lion

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too. I will roar, that I will do any man's heart good to hear me; I will roar that I will make the Duke say "Let him roar again, let him roar again."

Quince: An you should do it too terribly, you would fright the duchess and the ladies, and that were enough to hang us all.

All. That would hang us every Mother's son.

Bot: I grant you, friends, if you should fright the ladies out of their wits, they would have no more discretion but to hang us; but I will aggravate my voice so, that I

will roar you as gently as any sucking dove; I will roar you an 't were any nightingale.

Let the would-be Bottom remember that the laughter he wishes to evoke here is not thoughtful laughter. Let there be in his interpretation not a trace of "mechanical, automatic, inelasticity contrasted with flexibility." It must be played as enchanting nonsense; nothing more — and nothing less — than super-excellent fooling.

For a study in contrast of comic characterization, I know of no better source material than Molière and Shakespeare; but a survey

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of lesser dramatic classics reveals that every great comic character since their time has been patterned after the one or the other. Mrs. Malaprop with her "I would have my niece study geometry in order that she may know something of the contagious countries" - belongs of course to the school of wit. She is purely a cognitive type. Almost all of Oscar Wilde's characters belong to this genre. Cecil Graham's epigram in Lady Windermere's Fan — the one in which he answers Dumby's remark that he has never met any good women with "What a lucky fellow you are. I've never met anything but good women. To know them

is a middle class education" being a typical example — definitely establish him in the same class. All of Shaw's humor must be played in the vein of the comedy of wit. In fact his dialogue in spots is so disembodied, so purely philosophic, that the actor frequently gets the best effects by removing himself from the picture entirely and letting Mr. Shaw's wit speak for itself. Almost without exception the characters of Galsworthy, Granville-Barker, Goldsmith, Sheridan, Benavente, Goldoni and all of the Restoration Comedy belong to the same class.

There are fewer great humorous or affective characters in literature

– just as there are fewer great affective actors. Outside of Shakespeare and Aristophanes – Don Quixote and the mind melts is probably the only other classic figure.

It may be said in a general way in conclusion that acting of the cognitive type must be born of thought and consciously presented so; affective humor – while it may entail just as keen mental processes and a technique just as accurate – must appear to be spontaneous. For the former a formula is possible – but as well try to imprison poetry as to analyze that intangible something which makes a great affective humorist. A true to life creation

of an individual who stands alone and unique of his kind is the keynote of the comedy of humor. The aim of the cognitive character is to typify a class and by turning the white light of unbiased intellect upon human follies — to give us light rather than life.

The affective comedian must give us the laughter of "the mighty master of the human heart." The cognitive comedian must clarify our understanding. The latter is true to art; the former is true to life.

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THE PSYCHOLOGY OF EMOTIONS

Hilda Brannon

Speech 119

Summer --- 1935

THE PSYCHOLOGY OF EMOTIONS

Hilda Brannon

If we as students of dramatic art hope to accomplish any real progress in the field of acting, we must realize primarily the psychology of emotions in relation to dramatic interpretation; for only by intelligent expression of emotions can characters be made to live in dramatic art. To naively confront an audience with the smug assurance that "being natural" is the all-inclusive requisite of an actor is not only an ineffective but a damaging presumption. In life situations this would be sufficient; but drama is not life and cannot be effected on the presumption that a character ought or might feel every emotion he expresses. Since an actor cannot really be the character he enacts, and since his ultimate purpose is to so submerge his own personality that the assumed one will live realistically for his audiance, he must base all of his behavior on intelligence of emotions (the responses characteristic to that particular character, especially). He must know the vocal intonations, the facial expressions, and the whole physiognomic responses that are natural in each situation, and be able to reproduce them at will. Hence there is necessitated an actor's understanding the psychology of emotions.

The study of emotions is a difficult task, as is any psychological study, since the tools and manner of approach are

yet in the formative stage and the materials are essentially intangible. There are three distinct -- and yet in several phases, overlapping -- schools of approaching the study: the behaviorist, the introspectionist, and the gestaltist. Each method has its fine points and its strong supporters; we must weigh their ideas carefully and take the best theories from each as they apply to our task.

The behaviorist purposes to disregard all subjective elements which may compose an emotional response, and purely on the basis of visible evidences in the physical affectation, to learn the physiognomic pattern of that emotion. Such a psychologist, as Kohler (5) explains, believes that psychological studies should be made just as experiments in the exact sciences, by objective experiment, that is: "Instead of making a subject observe and describe his direct experiences in a given case, we place him in a well-defined situation to which he has to react by certian performances. These we can state and measure without his giving us any description of his experience." According to this plan of procedure, the behaviorist chooses a subject of a certain type (child, adult, man, woman, animal), subjects it to certain conditions which are objectively controlled (the most important of these we call the stimuli), and observes quite objectively the reaction which occurs. This type of work has been very successful in noting the autonomic part of the nervous system and the subsequent reactions which occur in the most important visceral organs, including the endocrine glands. But

Kohler observes that the elaborate procedures necessary for such objective experimentation are more problematic than helpful in solution of psychological problems. Thus he points us to the most practical type of the behaviorist's experimentation: "In most cases it is easier to see anger directly in subject's attitude than to state and measure, let us say, the adrenin in his blood." The chief prejudice of the behaviorist is against studying any "direct experience", which we define as one's own feeling regarding his reaction to a situation and consider as too subjective an element to be regarded as scientific in approach. These psychologists hold that we can investigate the "emotional behavior" of subjects without being involved with their "consciousness" or "subjective experience"; behavior, that is, the reaction of a living system, is their only subject-matter. To the behaviorist, the order of organic reactions in their dependence upon definite stimulation is said to be enforced by a pre-existing arrangement of more or less isolated conductors. Hence, order of functions is said to be enforced fundamentally in the reflex arc, but, at a higher level of the nervous system, connections may be built (or blocked) by another factor known as "conditioning". These are their two chief basic theses.

Introspectionism depends on the scientific viewpoint that the main properties of "true" sensory experiences follow the corresponding properties of peripheral stimulation. A decisive motive in this system is the belief that "true" sensations are independent of subjective attitude and depend only upon local sti-

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mulation as purely local experiences. Even among objective experiences, however, the introspectionist must make a distinction between sensation and perception, between the bare sensory material given to us and the host of other items which since early childhood have become associated with it. Hence the "meanings" must be separated from the seen material as such, for true sensations can not be considered as resulting from any previous association; any experience colored by our own biography has meaning to it, and cannot be considered objective. Introspectionism gets rid of meaning and studies the qualities and laws of sensations in their pure form. The introspectionist thinks that the experiences he has during his laboratory working are his "true" sensations, that, hidden somehow, always exist behind a veil of meaning whenever he falls back into a more naive attitude. It seems that there is no reason at all why the construction of physiological processes directly underlying experience should be impossible, if experience allows us the construction of a physical world outside, which is related to it much less intimately. However, there is very little of pure and genuine sensory fact left in everyday life. Direct experience is of an illusory character, for even "objects" which we perceive in our visual field, from the standpoint of introspectionism, must also be products of learning and transformed by "meaning" into "things". Though the introspectionist is convinced that "true sensory facts are independent of changes in subjective attitude", he realize that these "true" experiences are in a large degree distorted

truth, for the "meaning" theory excludes consideration of most emotions we ordinarily experience and treats only those very rare ones which can prove and be tested by its hypotheses. Thus, though such introspectionists as James and Lange present some true conclusions regarding emotions, which I shall present in this paper, I find the system, when carried to this ridiculous extreme, an unnatural and impractical means of studying emotion. Even disregarding the paradox of the "meaning" theory, we agree with Ribot(6) that internal observation can only "describe the internal fact and show its gradations"; it cannot explain the "condition and genesis of emotion".

Growing out of and beyond both these theories of psychology is one which accepts experience at its face-value, and attempts to interpret it in relation to behavior. It supposes that instead of reacting to local stimuli by local and mutually independent events, the organism reacts to an actual constellation of stimuli by a total process which, as a functional whole, is its response to the whole situation. This theory is known as the gestalt -- the dynamical unit or whole in the underlying physiological process of which concrete order of actual experience is a true representation. Dr. Kohler(5) tells us that we cannot hope to understand experience itself exclusively from its own aspect. To the dynamical dependence of this field upon definite physiological states beyond itself corresponds the felt definite direction of experience. Mr. Adler(1) says: "We can never judge the expressions of the psychic life as single isolated phenomena;

on the contrary, we must evaluate them according to the unit goal toward which they are directed. The essential meaning can be learned only when we know what value a phenomenon has in the entire context of a person's life. We can have an understanding of his psychic life only when we have reaffirmed the law that every expression of a man's life is an aspect of his unit behavior pattern." With regard to dynamical structure, not only the so-called expressive movements but also the practical behavior of human beings is a good picture of their inmost life. No two people react quite the same way to the same sensation. Dr. Kohler(5) says: "My objective experience pictures some essential traits of what those I observe may feel subjectively. All forms of dynamical development occurring in subjective experiences may be expressed by similar forms of objective experiences in the sensory field of the observer. A person perceives only that in his environment which fits into a behavior pattern previously determined by his physical and mental structure and his previous experiences with which that correlates; his individuality and uniqueness consists in the extent and manner of his perception, which is defined and limited by this behavior pattern. Thus the gestalt theory of emotion must be interpreted as a reaction of the dynamical unit of the organism to a constellation of stimuli.

The theory of gestalt interprets the process of emotion in a new and strange manner, regarded by many as ridiculous, but found to be immensely valuable to our purposes if not made

to appear distorted. It is based on monism, or at least on a very close association of mind (or soul) and body, in some instances incorporating mind in body. Though Kohler supposes that philosophy may have to make a distinction between "mind" and "body", Lange (as quoted by James) says that we have absolutely no immediate criterion by which to distinguish between spiritual and corporeal feeling. Mr. James concludes that emotions must be responses of the totality, mind and body; for example: "If we fancy some strong emotion, and then try to abstract from our consciousness of it all the feelings of its bodily symptoms, we have nothing left behind out of which the emotion may be constructed, only cold intellectual perception." With Ribot: "Every emotion, even of slight intensity, appears to us as affecting the entire individual, and expressing, in its complete form, what Bain has called the law of diffusion." In contrast, Adler calls emotions "psychic movements which possess a definite time boundary", with the purpose of modifying the situation of the individual in whom they occur, to his benefit; and Buell[2] calls emotions feelings (mental state of pleasure or pain) resulting from ideas. However, I tend to agree with Lange, who traces an emotion as: first, an intellectual state, perception, or idea; then organic and motor disturbances; and finally a consciousness of these disturbances, which is the psychic state we call emotion. James's theory is that "The bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur IS the emotion."

There are certain recognizable bodily responses to impressions which precede a perception of just what emotion is present, showing that the bodily expression of emotion even goes before the mental perception, at least in coarser emotions, says James. Further, he argues that emotion cannot exist without bodily manifestation; and Ribot[1] supports this physiological theory by the conclusion that the more intense an emotion -- even such fine emotions as religious, moral, intellectual, and aesthetic -- the more intimately it depends on the modifications of the organism, on the unified physical response. James believes so intensely in the physiological theory that he cites examples of completely sensory emotions: an attack of nervous dispepsia in which there is bodily fear without mental perception of a cause for fear; the mental excitation of gaity resulting from the distention of blood vessels after drinking wine. Though we cannot if we would control many of these bodily manifestations voluntarily, we know that, once an emotion is aroused, if we continue to allow these bodily symptoms free expression, the emotion is intensified, whereas, if we refuse to express a passion, it dies. It is also true that if the manifestation of an emotion is suppressed, the current which would have invaded the normal channels turns into others, since it must find some outlet of escape, and may work different and worse effects later on; this adds further proof to the statement that emotions must <u>be</u> bodily expression.

Some students object that if bodily responses were so important as this, then "any cold-blooded arousal of a special

emotion ought to give us the emotion itself," James tells us. Many actors do testify that their gestures and expressions used in the portrayal of intense characters produced involuntarily in them such feeling that they were exhausted by the experience. I believe that all who work in dramatic interpretation realize this to be true to some extent, though the number who claim to actually live the parts they play is negligable, fortunately. Realizing from Adler(1) what an important part the endocrine secretions of glands have upon our bodies and that every genuine emotion excites this secretion to some extent, we might realize the danger of exciting those emotions at will.

The presentation of the most realistic drama , at the same time keeping the most ideal conditions of living for those who enact that drama is our purpose. That purpose need not be unrealized. Perhaps the reason for actors' being excited to real emotion in drama lies in the process of their recalling by memory or creating in imagination situations which, appealing to their individual behavior pattern, stimulated such response. The ideal representation of emotion on the stage embodies all the expression necessary in a physiognomic pattern to appeal to the mind of an audience so that it might arouse their sympathetic and vicarious emotions. Thus an understanding of the psychology of emotions enables the actor to make drama a realistic representation of life.

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A Resume

of

The Effects of Coaching Subjects in the Recognition of Facial Expressions, by Arthur Jenness, from the Journal of General Psychology, Volume 7, 1932, Pages 163-176.

and

The Recognition of Facial Expressions of Emotions, by Arthur Jenness, from the Psychological Bulletin, 1932, Volume 29, Pages 334-335.

by

Milton Wiksell

Great variation of individual differences in the ability to identify facial expressions and emotions has been reported as proof that these inequalities are responsible in a large part to differences of practice in reacting to expressive criteria, rather than innate factors. F.H.Allport (1) has offered the data from an experimental observation of the results of training subjects of varying ability for fifteen minutes in the analysis of facial expression. The increase in the score made by his subjects on the facial expression test after the training period was roughly inversely proportional to their original standing; i.e. the less proficient persons gained the most and more proficient gained the least.

Repeating this procedure with more students, both with the same and longer periods of study, Arthur Jenness of the University of Nebraska, largely confirmed Allport's data.

"How do individuals differ in their ability to name facial expressions; and to what are these differences due?" Carney Landis (4) and Mandel Sherman (7) both seem to doubt the existence of general patterns of facial expressions corresponding

to the various types of emotion.

Professor McDougall's theory of the "sympathetic induction of emotions" seems to imply that the ability to recognize emotional expressions or at least to make differential responses to them, is innate. See Allport (1, P.234).

The preponderance of opinion seems to favor the view though that this ability is partly or largely the result of trining and experience.

Murphy and Murphy (Allport, P. 70), after reviewing the literature have stated that the evidence is strong that there is no basis upon which an innate capacity to interpret emotional patterns can be predicted.

Allport's conclusions (1, P.226) shows that a wide range of ability to name facial expressions existed among college students and attributed these differences of practice in reacting to the expressive criteria. Some people, he suggested, have learned through special opportunity or incentive to read facial expressions, probably at an early age, while others, through lack of proper practice, have not acquired the ability to such a high degree. Allport's conclusions are based on experiments with the facial expression test.

Allport found that fifteen minutes of systema-

tic training in analyzing facial expressions increased considerably the scores of those who originally stood low in the test, without increasing the scores of the better subjects. The gain of the poorer judges was roughly proportional to their lack of ability. This would seem to indicate that the ability to identify facial expressions was mostly the result of experience and training, at the same time admitting the possibility of innate differences of a general sort in the sensitivity required to learn to interpret facial expressions.

The purpose that Jenness had in his mind in this study was to examine the validity of certain assumptions upon which Allport's conclusions have been based. Professor Guilford (3) has also suggested that more tests and analyses of the factors involved should be made before Allport's conclusions are accepted as final.

In analyzing the procedure Jenness questions whether fifteen minutes of studying such a complicated chart as the one used actually results in a significant improvement in ability to name facial expressions. Fifteen minutes is a short time compared to a lifetime of experience in observing the actions of other people, probably with many opportunities for learning the names of patterns of

emotions. An average gain of 5.9 points is shown in this experiment, but this is less than the gain in credit which would result if each subject were to improve by only so much as changing one incorrect response to a correct one.

Since the number of subjects in Allport's experiment was small with a consequent limitation of statistical procedure, it seemed desireable for Jenness to repeat and expand some of this earlier work. He repeated the experiment with a very much larger group and the results obtained were almost identical with Allport's previous results.

Jenness was interested now in finding out the effect of lengthening the study period so conducted an experiment exactly like the previous one with the only difference being that the students were allowed to study forty five minutes instead of fifteen. The experiment showed a gain of 8.1 points with forty five minutes of study which is 1.3 points higher than the average increment shown in Allport's experiment. Trebling the length of time for study seems to have little effect on the average gain as a result of training. Jenness also found that practice with a chart only tends to equalize the ability of the various subjects.

A control experiment was tried by Jenness in which a test was given of the same type as was tried before and then the students were allowed to rest fifteen minutes without discussing pictures. The same test was given again with no gain resulting on the second administration of the test. Any average gain, such as appeared in the previous experiments, may therefore be attributed to the study of the chart itself and not to practice effects from the first testing.

Jenness reports in his findings then that the effect of training subjects for periods of fifteen or forty five minutes in the analysis of facial expression is a significant increase in the average of their scores on the facial expression test. This training causes the increase and not the practice gained in taking the test the first time.

Allport says that while there may be innate differences of a general sort in the sensitivity required to learn facial expressions, the broad differences between individuals or practice in reacting to the expressive criteria.

Jenness while willing to accept Allport's theory in this respect, denies that Allport's experimental evidence, when more closely scrutinized, supports the theory.

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Charlotte Searles
Speech 119

SCHEMATIC OUTLINE OF EMOTION
By John B. Watson
Johns Hopkins University
From Psychological Review
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Schematic Outline of Emotion
John B. Watson, Johns Hopkins University
Reviewed by Charlotte Searles

What is an emotion?

In his schematic outline of emotion, John B. Watson says an emotion is an hereditary pattern-reaction involving profound changes of the bodily mechanism as a whole, but particularly of the visceral and glandular systems. In the pattern reaction separate details of response appear with some constancy, with some regularity and in approximately the same sequential order each time the exciting stimulus is presented.

However, Watson continues, the general condition of the organism must be such that the stimulus can produce its affect. For instance, a child alone in a house on a stormy night with only a dim candle burning may display the reaction of fear at the hoot of an owl. If the parents are at hand and the room is well lighted, the stimulus may pass unnoticed.

Thus, stimulus in a broad way is used to refer not only to the exciting object but also to the general setting.

The difference between an instinctive reaction and an emotional reaction is that the shock of an emotional stimulus throws subject into a chaotic state , while the subject under the influence of an instinctive stimulus does something---throws his hand up, blinks or cringes. This is an important factor in the study of gesture.

This applies to the more stereotyped forms of emotional response. The pattern as a whole gets broken up. Except under unusual conditions there can be noted only a reinforcement or inhibition of the habit and instinctive activities. Only in pathological cases or in the case of normals in periods of war, earthquake, or sudden death of loved ones, do we get a complete return to the

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original and more infantile type of emotional response.

Organized activity may and does go on at a given level, excited, normal or depressed.

In a genetic study of emotion in the child in which Dr. Watson observed a number of infants the following groups of emtional reaction were suggested; fear, rage and love.

Stimuli producing the reaction of fear:

(1) suddenly removing all support from child

(2) loud sounds

(3) sudden push as the infant is just falling asleep or

(4) slight pull of the blanket upon which the infant is lying as he is just falling asleep.

It is interesting to note that Dr. Watson in his observation found no evidence of instinctive fear of the dark. The child's fear in the dark was always due to some other cause, and should be considered as a conditioned fear reaction.

Stimuli producing the reaction of rage:

(1) Hampering the child's movements

(2) Holding arms tightly to sides

(3) Holding elbows tightly.

(4) Pressure against head, dicovered when infants' ears were being treated with cotton pads pressed against ears.

Response was shown in stiffening of the body while the baby holds his breath, draws his feet and arms up and down and later and violent loud crying.

Stimuli producing the reaction of love.

(1) tickling or manipulation of some erogeneus zone.

(2) tickling

(3) shaking, gentle rocking or patting.

Baby when thus stimulated will stop crying, smile and make attempts at gurgling and cooing. Later the child will extend his arms when reacting to this stimulus

As brought out by observation of infants and animals it would seem that the final stage in any great emotion would seem to be paralysis or the 'death feint'.

(This observation should prove very valuable to the actor in pointing out that to convey the emotion to the audience one must not experience the emtion in itself, because he will be unable to speak or move.)

An experiment on children of 165,126,124 days proved that children are not instinctively afraid of animals.

Dr. Watson is of the opinion that most of the asserted emotions are of the consolidated type--emotion,plus instinct, plus habit. This of course limits the genetic method of study. The experimenter has to keep the baby under constant observation . The infant is a part of a social group and must sooner or later be returned to it. Society furnishes its own corrective for failure to react emtionally.

If,later in life the individual does not react according to the standard set by society he is examined by the scinetific psycholog ist. The methods used in detection of implicit emotional responses are:

1. Controlled association word reaction.

(1) The experimenter gives one word and the subject responds with the first word he thinks of. Certain words in the prepared list should have emotional value and will be responded to with a break or inablity to speak.

2. Free association method.

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(2) The subject is started on a word and is told to say the words as they come into his mind whether there is any connection or not.

3. Dream study

(1) Typical Fruedian method of analyzing emotional problems, in which the experimenter trys to connect elements of the dream with certain desires that have no outlet except in dreams.

4. Study of slips of word or pen , poor adjustments , over and under reactions, bodily postures and attitudes,

5. Determination of amount of sugar in the blood before and after presentation of a stimulus.

6. Emotional questionnaire of woodworth. Yes and no answers to such questions as, Were you considered a bad boy? Were you shy with other boys? Do you know of anybody who is trying to do you harm? Did you ever make love to a girl? Have you ever had any great mental shock? Have you ever been afraid of going insane?

(1) If there is any unstable emotional temperment the fact if supposed to be revealed by the answers.

7. Psycho-galvanic reflex

(1) Non-polarizable electrodes are place upon two parts of the body. Electrodes are connected to a sensitive galvanometer. Definite deflection of the needle is obtained. Another Emotional stimuli are then given and their effect noted by deflection of needle.

8. Expressive methods

(1) automatic writing, drawing and vaso-motor changes

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(2) Respiratory curve is very sensitive but is subject to too many influences.

The discharge of adrenin caused by an emotional stimuli leaves the organism either less well adapted or improved. Thus in conclusion Dr. Watson states that the role of emotion in daily life is to lift the individual from monotony and possibly to a great degree of achievement.

Own reaction to this
[illegible]

AN EXPERIMENTAL TEST OF TWO THEORIES OF SOCIAL SMILING IN INFANTS

by Wayne Dennis

I. Introduction

A. Two theories to explain infants' smiling

1. Human form and voice are native causes for smiling.

2. Some other unconditioned stimulus to smiling to which the form and voice of an adult may be associated effectively.

a. Preyer: satiety produces smiling.

b. Watson: contact stimuli most effective.

B. Requirements of experiment

1. Second theory bases effectiveness of human stimulus on its association with another stimulus.

a. Supposes that unconditioned stimulus should be found.

b. Effectiveness of unconditioned stimulus should be evidenced at earlier date than human form and voice.

2. First theory holds association with human beings not essential to social smiling -- hence, prevent such association and test for social smiling at the proper time.

3. Combined experiment studies development of smiling to human face under normal conditions while vocal stimulation by adult is controlled.

C. Nature of the experiment

1. Subjects were fraternal twin girls 36 days old.

2. Attendants were Mr. and Mrs. Dennis.

3. There was no fondling or playing with the infants during the period of experimentation except as specifically needed in the care of the infants or to fulfill the experiment.

4. Attendants talked freely together in the nursery, though never addressing the infants.

5. Program of the experiment:

a. From day 36 to day 48: fed and cared for them without experimentation.

b. From day 48 to day 82: stimuli presented which tested sensory control of smiling.

c. From day 82 to day 112: no experiments performed, but records kept of responses to usual routine contacts and experimenters.

II. Results

A. Record of smiles occurring as result of definitely noted stimuli

1. From day 36 to day 48: total of 18 smiles.

a. From tactual stimulation of lips or chin incident to feeding, 9 smiles.

b. In crib, with eyes on the experimenter, 6 smiles -- 3 after feeding.

c. Asleep, 2 smiles.

d. After feeding, no fixation, 1 smile.

2. From day 48 to day 82:
(There were 40 presentations of each stimulus.)

   a. In response to patting on the chest, 9 smiles.

   b. In response to the experimenter leaning over the crib smiling, 6 smiles.

   c. In response to tickling on the neck, 5 smiles.

   d. In response to tickling the ribs, no smiles.

   e. Some smiles evoked when stimuli designed to be unpleasant were presented.

   f. Of the 46 smiles which occurred, 39 appeared when the experimenter bent over the crib.

B. Observations regarding social smiles (those occurring while infant fixed her attention on face of attendant)

1. Increase in social smiles as shown by total per week from day 50 to day 112: o, 3, 8, 2, 10, 9, 8, 25, 31.

2. During this period Rey gave no non-social smiles, and Del only 7.

3. Rearly all smiles occurred as the experimenter bent over the crib before touching baby, and all expect 8 before feeding.

4. No proportionate increase in non-social smiles.

5. Social smiles increased for months after tactual stimuli were removed.

6. Satiation was very uncommon stimulus for smiles.

7. Smiles not evoked by sound of voice when attendants were not speaking to infants; therefore voice cannot be considered as effective stimulus as form.

8. Smiles resulted from the sight of no other familiar object than the form of attendants.

C. Conclusions regarding social smiling:

1. Social smiling is not instinctive.

2. Social smiling results first from a conditioned stimulus -- the relief of discomfort or distress.

3. Social smiling recurrs when the infant sees the adult, whose form has become in his mind a signal of relief from distress.

III. Summary

A. Smiling in infants is not the result of instinctive stimuli in:

1. Human form and voice, or

2. Satiety and contact; but

A. Smiling becomes a conditioned response to any stimulus which brings about a cessation of fretting, unrest, or crying.

REFERENCE:

The Journal of Social Psychology, May, 1935, pp. 214-223.

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Judgment of Facial Expression of Emotion in the Chimpanzee

by

John P. Foley, Jr.

From the Laboratory of Comparative Psychology
Columbia University, New York City

Journal of Social Psychology
Worcester, Mass. Dewey and Murchison, Editors
Vol. VI, Number I February, 1935
Pages 31--67

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Topical Outline 290

A. Early research in the endeavors:

I. Of the human face:

1. 1667--Le Brun, Conferences
2. 1774-1782--Camper, Discours
3. 1806--Sir Charles Bell, Anatomy and Philosophy of Expression
4. 1810-(?)--Henle, (Supplementing Bell)
5. 1862--Ducherne, (Like Bell, except electricity played major part)
6. 1863-(?)--Dumas, (Refuted Ducherne conclusively)
7. 1850-1900--Bain, Spencer, Nony, Mosso
8. 1865--Gratiolet & Wundt
9. 1873--Darwin, (Studied expressions from infants, insane, photographs, sculpture, races of man, animals. By far the best to date. He set standard of excellence)
10. Present Day--Allport, Foley, Jenness, Guildford.

II. Relation of Ability to Discern to Intelligence:

1. Tests show little; inconclusive; disagreement as to methods, authenticity, and subjectivity.

B. Present Experiment: To investigate human judgment of facial expressions in Photographs of Chimpanzees. Male, age 5--from Russia.

1. Six "emotions" depicted and their numbers:
1. quietude, 2. sadness, 3. laughter, 4. weeping, 5. anger, 6. excitement.

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1. Six "emotions" depicted and their numbers:
1. quietude, 2. sadness, 3. laughter,
4. weeping, 5. anger, 6. excitement.

2. The stimuli accompanying these, in order, were: 1. inactivity, 2. undisturbed, 3. delaying food and drink, 4. freedom, 5. being deserted, other animals put in cage, 6. offending animals, attempted assault from any source, and 7. strange and/or sudden noises, e.g., a fight.

3. Photographs given to subjects to judge and estimate:

I. Photographs: 7 x 7½ inches; heavy glass paper; no mark or name on any of them.

II. Subjects: were given sheet with directions; the students were of Columbia University and ranged from Freshman to Ph. D., both sexes, all ages--17-43---127, 31 men, 96 women; all students of a graduate course in comparative psychology; members were put in for emotions, etc., and handed in, signed.

III. Results: wide indivudial a d group differences; no common denominator of race, age, sex, intelligence, etc., because subject too few, conditions too artificial, correct answers subjective; some did, however, count.

1. Accuracy: low; highest percent accuracy was #4, weeping, with 21% high st percent of agreement, though the agreement was wrong, was #5 anger--48%--#6 was not cited correctly by any of 127 people; tendency of inaccuracy: subjective leaning toward human forms. More of the students were "right" on the wrong ones than "wrong" on the right ones.

2. Methods used by subjects in determining: Pure guess; comparison of photo to other organisms; human beings, adult and infant; premature man; infrahuman animals; other photos conventional standards, previous observations; Previous descriptive text; imagined completion of stimulus selection; Empathy; analysis of Expressive Facial Reaction Impersonally and objectively. (This last item was naturally the rarest)

Note: The article concludes with 157 References, including books, pamphlets, brochurers, monographs, magazines, and theses in English, French, German, etc.

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A TEST FOR ABILITY TO INTERPRET FACIAL EXPRESSIONS

Gates, Georgina Strickland

Psychological Bulletin Vol. XXII No. 2 1925 P-120

Problem:

902 school children (ages 3 to 14 and grades kindergarden to 8th) and 86 college students were tested either individually or in small groups to interpret facial expressions.

Results:

1. Ability to interpret increased uniformly with age.
2. Areas of ability well defined.
3. Probable order of difficulty in detecting from least to greatest.
   a. laughter
   b. pain
   c. anger
   d. fear
   e. defiance
   f. appeal
   g. scorn
   h. surprise
   i. blending of sorrow and joy
4. Correlation of two low (almost worthless)

THE ROLE OF THE AUDITORY ELEMENT IN THE INTERPRETATION OF EMOTION

Gates, Georgina Strickland

Psychologocial Bulletin Vol. XXIV 1925 P-175

Experiment: To determine auditory element in interpreting emotions.

Methods: A phonograph record with nine emotions depicted in reciting the alphabet: happiness, unhappiness, anger, fear, surprise, scorn, defiance, pity, and suspicion. 627 school children (grades 3 to 9) listened and reported their interpretations. Pictures were used for comparison.

Results:

1. Phonograph a feasible instrument.
2. Increase in understanding with age, grade, and school experience.
3. Intelligent pupils superior to others.
4. Auditory not as good as visual.
5. Varying degrees of difficulty in recognizing the various emotions.

AN EXPERIMENTAL STUDY OF THE GROWTH OF SOCIAL PRECEPTION
Gates, Georgina Strickland

The Journal of Educational Psychology Vol. XIV No. 8
Nov. 1923 PP-449-461

A. Purpose of Article: To attempt study of the genesis of the ability to interpret emotional expressions of others.

B. Materials Used: Six photos judged by students and author.

C. The Pictures by Number:
1. Mirth
2. Pain
3. Anger
4. Fear
5. Scorn
6. Surprise

Shown singularly and individually to 458 children, ranging from 3 to 14 years of age and varying greatly in social status. They were to identify the emotions pictured. The identifications were hazy, but more or less accurate.

D. The Interpretation As Such.
1. Different interpretations by different social groups.
2. Sex is also a differentiating factor-boys are better at recognizing fear; girls are better, at an earlier age, for all except fear.

E. Results.
1. Sex difference is negligible
2. Social status differences are slight, if any.

Rex Smelser

R E S U M E

OBSERVATION ON THE UNRELIABILITY OF SUBJECTIVE REPORTS OF EMOTIONAL REACTIONS

By Hans C. Syz

(From the Psychological Laboratory, Henry Phipps, Psychiatric Clinic, John Hopkins Hospital, Baltimore, Maryland.)

Published in "British Journal of Psychology, 1927, Volume 17.

Class Report

By

Don Fay Adams, A. M.

This experiment is based upon a previous experiment, the purpose of which was to record the reactions to fifty words which were read twice to the individual. The purpose of the second experiment was to show that subjective reports are unreliabile, and also, to show the nature of those forces responsible for this discrepancy.

The students, (64 Medical students) were asked afterwards to give a subjective account of their experience during the experiment. The word list was presented to each of them, and the request was made to mark all those words which had elicited, during the experiment, a definite emotional reaction.

In reviewing the first experiment, no word was reacted to by all subjects but all words elicited responses from some individuals. The number of responses varied greatly with the different words, ranging from 16% to 84%. The individual's name obtained most frequent reaction, and second, sex topics and words associated with the school interest of the subject. Reactions to the second reading were less numerous.

The following is a part of the list of words with the reactions to the first and second readings, and the subjective reports:--

Word	Reaction First Reading	Second Reading	Reports
kiss	72	40	34
prostitute	52	40	2
misspent youth	48	20	4
insane	44	20	4
stubborn	40	20	6
father	22	16	28
stupid	18	24	0
Catholic	36	4	0
lazy	26	24	4
mother	26	12	30
bonehead	42	14	8
clumsy	36	18	4
unpaid bills	36	24	2
ambitious	24	14	26

We can see at once, then, that the reports do not agree with the record of the experiment. The question arises, "Why this discrepance?" The answer is that social standards and personal prejudices affect responses, and lead the individual from a clear awareness, and to a belief in others that are not present. Social suggestions generally handicap and distort not only the recognition of one's own emotional reactions, but, also, one's examination of the affect state in others.

In conclusion, then, after having seen that words against which society has no prejudice, and which should have elicited greater reaction, did not, but received a greater number of subjective reports; and, that words condemned by society, but which, nevertheless, brought a number of reactions, were in the minority in the subjective reports; and, that words involving inferiority of character and personality were responded to in the same manner; we may leave with the student of emotions, the following questions:--

"How far is scientific investigation of emotional reactions handicapped by this unreliability because chemical and psychological methods cannot give adequate information about those phenomena of the emotional reactions which--though including chemical and psychological processes--represent entities of higher organization."

The question is left in my own mind as to the adequacy of Modern Materialistic Psychology for the answer. I am inclined to think rather that the materialists reach no further than mere Minor Psychology, or the psychology of animals, when it is possible that the subject may belong to that division of Modern Scholastic Psychology, called Major, or Rational Psychology.

A REVIEW

OF

"A PROJECT FOR INVESTIGATING

THE FACIAL SIGNS OF PERSONALITY"

by

KNIGHT DUNLAP

in

"THE AMERICAN JOURNAL OF PSYCHOLOGY"

1927-Volume 39-pp. 158-161

"Attempts to read character from the face are of ancient origin and apparently antedate the phrenologists system of cranial diagnosis. In recent years . . . character analists . . . retaining something of phrenology . . . (plus) old superstitions . . .(about) color . . . texture of hair . . . emphasize facial details . . . has been pointed out . . . character analysis systems have no practical validity . . . essential weakness . . . they involved an attempt to correlate mental disposition with anatomical characteristics, a correlation which does not exist in a mixed race. Physiological details . . . may have some correlation with mental traits . . . serious investigation must deal with these . . . The subject should be carefully distinguished from character analysis; and, hence, I suggest as a name for the topic under investigation, the new term, 'idoscopy'.

"From the visable activities and conditions of the face we judge certain temporary emotional conditions such as anger, pleasure, fear, disgust, etc. . . . investigations show . . . indications confined . . . mostly with (muscles) . . . no means accurate

. . . conditioned by . . . other factors . . .

"Personality of parts . . . determines in part . . . actions of features . . .

"There is a possibility that the muscles . . . have been modified . . . and that fascin, true skin, perhaps . . . connective tissue . . . slightly modified . . . Hence, it is worth while to investigate facial contours.

(Early methods used) "I have found . . . to sketch, roughly . . . putting in patterns in sketch (usually tentative) . . . First . . . fixed patterns . . . second . . . do not appear all at once . . . third . . . facial patterns fall . . . fixed type . . . limited number . . .

(Furture method) "Photography of lines or cracks on face under light or by crayon marks or by cracks appearing in light, dry (clay) mask placed over face."

The results are not known.

Suggestions: study of relations of line patterns to personality types.

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A BRIEF RESUME' OF

"A NEW MODEL FOR THE DEMONSTRATION OF FACIAL EXPRESSIONS"
by J.P. Guilford and Margaret Wilkes

Submitted to T. Earl Pardoe
in Speech 119

Frank B. Creighton

A NEW MODEL FOR DEMONSTRATION OF THE FACIAL EXPRESSIONS

American Journal of Psychology Vol. 42, 1930 p. 436-39

by J.P. Guilford and Margaret Wilke, University of Neb.

A. Introduction

Following suggestions made by Piderit, Boring and Titchener constructed a model of the human face in which the brows, eyes, nose, and mouth could be independently removed and replaced. This made it possible to:

1. Show what each of these features contributes to the character of the face, and
2. Synthetize a large variety of expression.

This model serves well as a demonstrational device and was used in experiments by Fernberger, Jarden, and others.

The Boring-Titchener model has certain limitations:

1. Shows face in profile, which makes it impossible to produce important expressions as laughing and weeping.
2. Wundt's "sour mouth" will not show in profile.

A new model was built and based on the same principles of Boring-Titchener, but presented a full face.

B. Description

The face was divided into five parts based on the following principles:

1. Cheek belongs with mouth in facial expressions
2. Changes in the mouth spread up and around the nose into corners of eyes.
3. Changes in forehead and brow involve region which extends down between the eyes.
4. Lines drawn straight to avoid confusion of lines of expression which are curved.

C. Procedure

The procedure was similiar to that of Boring-Titchener: Construction was as follows:

1. The expressions were drawn on white drawing paper of good quality.
2. Glued upon three-ply wood 5/16 of inch thick.
3. Main piece which contained hair and ears was permanently fastened to a wooden base of same wood, 18x 24x 5/16 inches.
4. Expressions on wood contained pegs which fit into holes in the base.
5. Face was 17 in. tall and 11 in. wide at ears.
6. No neck was included because:
   a. Change some expressions (as anger)
   b. Absence of neck made it possible to drop chin when expression demanded.

The models for expressions chosen from Rudolf sketches and the Ruckmick photographs. The Piderit faces were not available. The Rudolf pencil sketches were the best, because they gave the very lines that were needed in the expressions; and the lines in the photographs didn't show up well.

D. Demonstration

The list of varieties of expression of each part:

1. Brows
   (a) normal-passive (b) raised-horizontal wrinkles (c) contracted-vertical wrinkles

(d) raised and contracted (e) slightly contracted (f) slightly raised.

2. Eyes
(a) normal-passive (b) raised-introverted (c) wide open-attentive (d) very wide open- very attentive (e) closed-lowered lid, inattentive (f) narrowed-suspicious (g) laughing-crow's feet (h) weeping. (i) averted-voluntary inattention

3. Nose
(a) normal-passive (b) raised and dilated nostrils-attentive disgust (c) dilated nostrils-attention (d) raised nostrils-disgust

4. Mouth
(a) normal-passive (b) sweet-pleasure (c) clenched teeth-anger (d) bitter-displeasure (e) very bitter-great displeasure (f) set-determined (g) bitter-set (h) open-attentive (i) openand bitter-unpleasant attention. (j) laughing (k) weeping (l) sour.

Provided all these combinations give sensible and notably difference in total expressions, the number of possible expressions would be 3000, only a fraction which are significant or useful.

E. Explanation

Rather than follow the scheduled succesion of faces laid down by Boring-Titchener, a new plan of demonstration was given of which two methods were used.

1. Explaining the meaning of each set
a. Give a vocabulary of the face
b. Shows that Dunlap is correct in saying that the mouth is superior to eyes or brow in determining the total result.
c. Proved important principle of Gestalt in that a change in one part of an expression may alter all others, or if a readjustment of the parts is made it becomes a new whole.

2. Builds up faces according to Allport's six groups.

F. Conclusion

1. Is hard to believe if test were given..that subjects would agree in naming expression, or would they accept names which had been assigned to them.

2. However, it is very efficiently a demonstrational device, because,
a. Range is adequate
b. Facial vocabulary increased
c. Convincing in totality

(N.B..... See last page for illustrations of model..)

NEW MODEL AND ITS SEPARATE PARTS

(The light straight line around the face and features show exact location of parts)

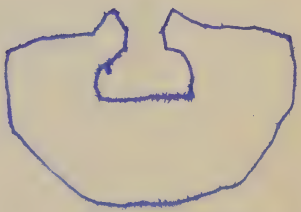
Straight Model Showing PARTS

1. Brow
2. Eye
3. Eye
4. Nose
5. Mouth + cheeks

Brow

Eye Eye

Nose



Mouth and Cheeks

HUMOR Model - Places of PARTS

1. Brow
2. Eye
3. Eye
4. Nose
5. Mouth + cheeks

Speech 119

Mary Eleanor Lutz
August 1925

Bell, Sir Charles — The Anatomy and Philosophy of Expression as Connected with the Fine Arts, fifth edition, London: Henry G. Bohn, York Street, Covent Garden, 1865

Charles Bell (1774 - 1842) was the youngest son of a Scotch clergyman. He studied medicine at the University of Edinburgh and became deeply interested in anatomy. Thereafter he devoted his life to that study.

Before he left Edinburgh to establish his residence in London, he wrote a series of essays which were published in London in 1806 under the title The Anatomy and Philosophy of Expression as Connected With the Fine Arts. This work immediately attracted attention. His practical knowledge of anatomy and his skill as an artist qualified him in an exceptional manner for such a work. The object of this treatise was to describe the arrangement

by which the influence of the mind is propagated to the muscular frame, and to give a rational explanation of the muscular movements which usually accompany the various emotions and passions. One special feature was the importance attributed to the respiratory arrangements as a source of expression, and it was shown how the physician and surgeon might derive information regarding the nature and extent of important diseases by observing the expression of bodily suffering. This work, apart from its value to artists and psychologists, is of interest historically, as there is no doubt the investigations of the author into the nervous supply of the muscles of expression induced him to prosecute inquiries which led to his great discoveries in the physiology of the nervous system.

This work is a milestone

in the history of the study of emotions. Bell was one of the first to recognize that bodily expression is a salient part of emotion and that the body nervous system limits the expression of emotion. He also intimates that a study of the masterpieces of painting and of sculpture are valuable in a study of emotion. Bell is a fore runner of Darwin and James.

One interesting conclusion Bell draws that one central nerve springs from the medulla oblongata and passes to every organ employed in respiration. This nerve descends into the chest and branches to the heart and lungs, and to the neck and face. Thus, these nerves are the instruments of breathing and expression. Bell had named them the respiratory nerves.

The first half of the book traces the relationship between the excitement of the brain

of the body and expression in the face. It is shown that the powerful emotions influence the same class of nerves and muscles which are affected in highly excited breathing and that the emotions are manifested by the respiratory structure.

Bell gives a detailed study of the forms and proportions of the head and face. Numerous drawings of the countenance of primitive man, the nineteenth century man, and of infants to old age are included. These drawings illustrate the Delsarte statement that intelligence is expressed proportionately to narrowness of base. Bell seeks to show that bodily contour is an index to inner characteristics.

In a later essay the muscles of the face are discussed. They are considered in three groups. Those which surround the eye, those which move the nostrils, and those which are around the mouth. Along with the description

of the muscles, Bell contributes several interesting comments. Some of them are: the eye is the chief feature of expression; the eyebrow is an index of the mind; an arched eyebrow means surprise or doubt; the muscles are the index of the condition of respiration & are affected by emotion. A student of dramatic art will find this essay helpful.

Young & clearly anticipates Darwin. It is a study of expression in animals and a comparison of the muscles of the face in man and in animals. Bell concludes that in animals all expressions are necessary instincts. While in man there seems to be a special apparatus which enables him to communicate with his fellow-creatures by changes in his countenance.

All emotions are intended to have their appropriate outward

characters and "the form of the face and the lineaments are but the groundwork of expression."* Emotions that are peculiarly human chiefly affect the angle of the mouth and the inner extremity of the eyebrow. They are the most movable parts of the face; in them the muscles concentre and upon them change of expression depends.

In Essay III. Bell discusses a dozen major emotions and illustrates them with drawings. By this means, he began the photographic study of emotions, which has lasted until the twentieth century. As an example, he describes bodily pain: "the jaws are fixed, and the teeth ground; the lips are drawn laterally, the nostrils dilated; the eyes are largely uncovered and the eyebrows raised; the face is turgid with blood, and the veins of the temple and forehead distended; the breath

* p. 143.

being checked and the ..... cutaneous muscle of the neck acts strongly, and draws down the angle of the mouth. But when, joined to this, the man cries out, the lips are retracted, and the mouth open; and we find the muscles of his body rigid, straining, struggling. ..... In bodily pain combined with distress of mind, the eyebrows are bent, while their inner extremities are raised; the pupils are in part concealed by the upper eyelids; and the nostrils are agitated."*

The last half of the book is concerned with the relationship between breathing or expression of the body generally, and the position of the limbs. Several ancient pieces of sculpture, "Laocoon" and the "Dying Gladiator", are cited as examples of the artist's knowledge of how the parts of the frame are united and how they cooperate in expression. Bell points out that this knowledge is

* p. 158.

also essential to the actor in his profession.

At this point, Bell seems to forecast the James-Lange theory in his statement "expression appears to precede the intellectual operations."* In connection with this he develops the thought that emotions may be modified by controlling the expression. We may learn to control our passions by restraining their expression.

The last two essays are devoted to the study of anatomy as necessary to design and the use of anatomy to the painter. Dramatic artists might well let this advice apply to them, because they can never attain the "vantage ground" of their profession without some study of anatomy. Bell defines anatomy to be "the examination of structure by which the mind

* p. 198.

expression of emotion, and the way in which the emotions are controlled and modified, it introduces us to the knowledge of the relations and mutual influences which exist between the mind and the body."*

Out of his studies, Bell made one important conclusion: bodily activity is to emotion what language is to thought. We can not exercise the reasoning faculties of our minds without words to represent ideas; likewise, we can not experience an emotion independently of bodily action.

Bell closes with "I have been able ..... to have many pleasant hours in observing and investigating the anatomy of expression. In the prosecution of anatomy, we never know to what results it may lead. The observations I have made on the nervous

* p. 213.

system might be traced to investigations on the present subject. I found that the whole frame is affected sympathetically, with expression on the Countenance; and it was in trying to explain that sympathy, that I was led to ascertain that there exists in the body a distinct system of nerves, the office of which is to influence the muscles in Respiration, in Speech, and in Expression."*

Because it was one of the first studies in the field of expression, the importance of this treatise has been ever-looked. In his turn, however, Sir Charles Bell has made a definite and important contribution. We might think of his original studies as the foundation upon which many later discoveries on the subject of bodily expression of emotions are based. It is hoped that others, especially dramatic artists, will become familiar with — The Anatomy and Philosophy of Expression As Connected With The Fine Arts.

* p. 212.

315

How Emotions are Identified and Classified

by

Robert S. Woodworth

Rosemary Swasey

One of the psychological theories that has been accepted is William McDougall's doctrine that specific emotions are the affective phases of specific instincts --that the most powerful instincts include a primary emotion. For example, with instinctive avoidance we find fear--aggressive and pugnacious behavior--anger, and with curiosity or exploratory behavior--the emotion-wonder.

Then Mr. Woodworth gives us the dictionary definition of fear--"the painful emotion characteristic of the apprehension of evil; agitation and desire to avoid an object." So we see that neither McDougall nor the dictionary attempt to go inside the organism for something to serve as the differentia of any given emotion. Neither attempt to give an introspective description of each of the primary emotions. It is doubtful as to whether or not such a definition could really be given in such a way as to enable the reader to identify the emotion that was being described.

Warren has gone farther than most authors in attempting to describe the emotional states as such. He says of a certain emotion that its tone is unpleasantness usually present in a high degree, that its characteristic organic sensations come from the lower viscera and the region of the heart and lungs, and that there are kina-

esthetic sensations of trembling, etc. It is safe to assert that this emotion would not be recognized from the introspective description.

Such a study of emotions, however, has not been carried far enough to warrant our denying that each emotion could be defined as a purely affective and sensory state. But psychologists are not yet in a position to point to a well-defined list of such states, along with a well-defined list of modes of overt behavior and then call attention to the remarkable one-to-one correspondence that exists between the two lists.

Watson has a list of three primary emotions--fear, rage, and love. He describes them in terms of external stimulus and overt behavior, with practically no reference to the glands and smooth muscles. He says of fear in infants: "The responses are a sudden catching of the breath, clutching of hands, closing of eyelids, puckering of the lips, then crying."

Indeed, at the present time it would be as impracticable to present an identifiable picture of each emotion in terms of the activities of glands, smooth muscles, and internal organs in general, as it is to present an identifiable picture in terms of sensations and feelings.

Experimental studies of internal bodily activities afford plenty of evidence of emotion, but little or none of the emotions are characteristically different states of the organism.

We seem to be driven back to where the dictionary left us. Unable to separate the emotions in intra-organic terms, we must seek a basis of distinction in the external situation. This does not appear very promising at the outset since emotion would seem to be nothing if not intra-organic, and since it would seem very unlikely that we could successfully classify external situations as fear situations, anger situations, etc., without reference to the responsive organism.

Fear we distinguish from anger, accordingly, by the overt behavior of avoidance in one case and attack in the other. But there are no muscles of avoidance and no muscles of attack. Movements are not classified on any such basis. The same movement, such as the flexion of the arm, may be an avoidance reaction, or may be preparatory to striking someone, or even to throwing a kiss.

Avoidance can be defined only in terms of the relation of situation and response, in terms of the change in the situation produced by the response. No matter what be the origin of an individual's fear or avoidance, and no

matter what the avoiding movement may be, avoidance always means that the individual is trying to get away from something, or trying to keep away from it.

The avoidance adjustment probably represents some pattern of neural and other intra-organic stresses. It has to do with the external situation and the overt response, and since it cannot be objectively observed, it has to be identified in terms of external situation and response. Emotions have to do with external situations and overt response and must be identified as both.

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BODILY CHANGES IN PAIN, HUNGER, FEAR AND RAGE

by

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Report by:

J. C. Harris
Speech 119

Nearly any one of you can recognize the visable effects of strong emotions. You do not need to be told that when a person becomes very angry his breathing becomes deeper and more accelerated, his nostrils flare, the pupils of his eyes become dilated, his teeth clench and the jaw hardens, the muscles in his arms and legs and in his feet and hands become tense. In fact a person's whole body registers the fact that it is , at a moment's notice, ready to spring into action, either agressivly or in retreat. We have come to recognize these patterns of certain emotions and know them even when the individual is trying to cover up. These reflexes are born in us as it is born in all animals and were this not so the race of man would probably have vanished from the face of the earth long ago. For if, when danger approached, we had to stop and think about preparing ourselves for it it would usually be too late. Man's early enviroment was one of constant conflict with nature's elements and the wild beasts which shared the same forests and caves with him. So Mother Nature proveded man with the same weapons of self defense as she did the rest of

her animals, giving him instincts and reflexes. Nature placed much of man's body at his control to do with it much as he pleased, but, as if she didn't trust him too far, she kept her fingers on the most vital parts. Over these vital organs she placed small glands which are automatic and which function without conscious mental activity. And to show her further distrust of fickle beings, these governing glands were buried beneath layers of bone and flesh where they could not be tampered with to please some whim or fancy of the individual. And Nature built wisely, for man, as man, has not moved backward in the process of evolution as have some of the not so perfect products of the Great Mould. Man's body is so well outfitted that it can very nearly look after itself with a minimum of mental effort.

The secret of this self governing mechanicism is the interlocking system of glands which are found in nearly inch of the body. Our sweat glands carry off several quarts of waste each day without us ever thinking of it at all. And like these sweat glands there are hundreds of others arranged throughout our bodies which carry on their natural and necessary

functions whether we are asleep or awake, some working while the body is in a normal condition others under abnormal situations. When we are hungry and food is placed before us and the aroma assails our nostrils, those glands whose job it is to carry on the digestive processes get ready for action. That is the salivary glands in the mouth begin to flow, those glands in our stomach begin to excrete their digestive acids. And we never have to think, "now I'll turn on my stomach juices." However these are not the only set of glands which have certain jobs to do.

Among the Endocrines are a small pair of glands called the Adrenals. These could be called our reserves or emergency tanks. One of their many functions is to control the distribution of the blood in the body. When we are faced with danger and are liable to need all our strength to get away from it these little "protectors" give forth into the blood stream a fluid known as adrenin and on its passage through the body it performs miracles. It stops all digestive processes and drives the great amount of blood being used there into the central nervous system and brain, thereby making us more alert and sensitive to our situation. It releases the sugar stored in the

liver and this, when it is carried throughout the body, increases the metabolism, the process of renewing wornout tissues in the muscles and brain. For science has known for some time that glycos or blood-sugar is the optimum source of nervous and muscular energy.

Its presence makes for more rapid coagulation of the blood and this is essential since the blood is the most precious of all body liquids. And it is at the precise time when blood is likely to be lost, that is, in accidents, fighting, falling etc. that this adrenin is poured into the blood.

Another function of the presence of the excretion in the blood is that it relaxes the tension on the smooth muscle of the bronchioles and thereby allows the small cartlilage rings to dilate, permitting more air with its supply of oxygen to reach the lungs and there release the impurities from the blood back into the air. This whole process making the lungs a more efficient organ in time of stress.

You can see from all this evidence that our glands were given us so that we might be able to preserve ourselves in time of great danger and to help us through periods of great emotional strain.

In other words they are for emergency only! You have probably had the experience or know some one who has had the experience of crying until the tears just refused to come. There werent any more to be cried, the tear glands were exhausted. This same thing can happen to any other gland in our body, and it often does when one emotion is prolonged to extremes.

It has been estimated that fifty percent of the inmates of hospitals for the insane are those who through the prolonging of some psycosis, fear, worry, suspicion, or jealousy has depleated some gland in his or her body which was necessary to maintain a balanced perspective of life. This is easier to do than you might think, for there are many cases on record of such excesses resulting in permanent physical and mental disorders. Kleen, in his book on diabetes published in 1900 cites the case of a German officer who won his Iron Cross for valor at the cost of his health. The loss of his health, namely the development of diabetes, resulted from a trying experience in the Franco-Prussian War. The continued excitment and the high pitch to which he kept his nerves tightened caused the flow of adrenin in the blood to be prolonged for so long that it released an excessive amount of sugar from

the liver into the blood , more than was being used by the muscles , and the result was a permanent state of glycosuria or diabetes. Many things in ones every day life can cause a slight state of glycosuria. It was found by W. G. Smillie that four out of nine medical students, all normally without sugar, had glycosuria after a hard examination.

W. B. Cannon and C. H. Fiske in an experiment examined the Harvard University foot- ball squad immediately after a very exciting game and found sugar in twelve cases. The only excited spectator of the game who they examined also had a marked glycosuria.

So you see that prolonged greif, sorrow, fear or anger produces a decided strain on these small glands whose purpose it is to give us the added strength to ward of danger and help us over the emotional high-spots.

Now when you hear some one saying in reference to acting on the stage, "just be natural" you will know that they do not realize what a big territory they are taking in. They are demanding that you place upon your endocrine glands an added and artificial strain which was never meant to be placed there by nature.

Therefore to prevent serious physical harm from resulting when an actor's script calls for him to register deep sorrow or violent pain or anger on the stage, he must have learned the physical patterns of these emotions and be able to go through them mechanically without ever really experiencing the feel of the real emotion. If he really did feel all of these emotions day after day and night after night, you can see what a terrific strain it would place on his reserve tanks, the adrenals. To prevent this, good actors learn the patterns of htese various emotions so as to be able to call them forth at will and not have to sit down and think of something very very sad in order to depict the broken hearted lover.

It is impossible to go on just being natural when you are portraying the emotions, and the sooner this is learned the better, for after so long your reserve is gone and when this happens something snaps and there is a hurry call for an actor to take your place while you are rushed to the nearest sanitarium for the mentally unbalanced.

Zelma Flack,
Speech 119.

THEORIES OF LAUGHTER

The Conclusions of Floyd Henry Allport,
Digest from his book, "Social Psychology", pages 67, 252 to 259.
Houghton Mifflin Company - 1924.

Genetic Origin of Laughter. The Incongruous. Laughter, which is preeminently a response to social stimulation, has been a subject of speculation among philosophers of all ages. Unlike other basic forms of behavior, laughing does not serve any known biological purpose. A great drawback in its study has been that scientists have attempted to explain the fullfledged humor of the adult as a kind of innate quality without going back to its beginnings in infancy. The genetic approach is the soundest one, for children are the greatest laughers. In later years their free and boisterous humor becomes restrained and "intellectualized" into witticism and satire.

The truly elemental joke consists in being tickled. Laughter is the innate response to the stimulation of the sensitive or ticklish zones of the body. At about the age of six weeks a light stroking of the baby's lips or pressure upon the cheek will evoke a smile. Soon other regions of the body, such as the neck, lower ribs, and soles of the feet, become sensitive to pressure or light touch. The responses are mild squirming movements, arching of the back, thrashing of arms and legs, giggling, and finally laughing. Why these zones are sensitive, and why their receptors should be connected with the spasmodic responses of ticklishness, we can only conjecture. Little is known of their physiological or biological significance. The stimulus seems to be external rather than visceral.

While the act of laughing is inborn, the range of things that come to be laughed at is extended by experience. Tickling represents a great fuss about nothing; it is the light touches and pokes that evoke laughter. But it is true that the ticklish zones overlie some of the most vital organs of the body. Hence, there is something terrible in a thrust at these vital parts, which throws into relief the antagonistic pleasant emotion aroused by the playful outcome of the thrust. The tickler does not miss the opportunity of making the thrust as sudden and terrifying as possible in order to get the heartiest peal of laughter from the child, when the latter finds he is only being tickled. This is precisely the situation in numerous funny events of daily life. There is a sudden passage from a strained expectancy to nothingness (Kant's theory of humor), or else a rapid shift from bigness, weight, or seriousness to the small or inconsequential (Lipps). It is the humorous passage from the sublime to the ridiculous. Fun of this type is common on the stage and in the circus. The acrobat takes a running leap and somersaults over four horses. The clown then runs down the platform in swaggering imitation, but suddenly stops and brushes a fly from the nearest horse.

Not only is the transition effected between contrasting and incongruous situations -- it is also a sudden transition, the abrupt change from one type of attitude to another. The tickled baby passes from a reaction of withdrawal and alarm to one of mirth and laughter as the playfulness of the attack is felt, a sudden passage for the tickler makes his movements very rapidly. It is no idle metaphor, then, which describes more mature humor as 'poking fun', and speaks of the 'thrust' and the 'dig'. Though carried out later by the thought mechanism, rather than

While the act of learning is tedious, the means of science that seem to be learned at is extended by experience. Tidying necessarily a moment thus about nothing; it is the Tuth bonbon and voice not small learning. But it is true that the tidy'al sense overlie some of the most vital organs of the body. Hence, there is somewhat the feeling to a shrunk at those vital parts, which throws into relief the [illegible] [illegible] as possible to order to get the particular way of learning [illegible], when the Junior lives be in a by being tidied. This secondly the alteration in numerous Queer events of daily life.

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[illegible] [illegible] [illegible] [

via the ribs, the fundamental attitudes assumed are essentially the same as the infant's, and are probably to be explained as developments of the latter. Whenever the events of life lead to a quick and complete change of motor setting, providing the setting changed to is not a vital one like fear or rage, a laugh is likely to be the form of release. This is the humor of the incongruous. It represents a generic type, of which the transition from the important to the trivial is a single species.

A good joke usually has a point, that is, an incident in the narrative or action where the sudden change of setting occurs that is released in laughter. It is led up to by a strain of expectancy. It is important not to give away the point before the proper moment, for then the attitude of the serious or sublime will not be sufficiently established for the sudden shift, or incongruity, to be keenly felt. One cannot tickle his own ribs, for he gives away the point since he knows that he is going to tickle and not gouge, and that he is going to do it at a certain moment -- there is neither suddenness nor change of attitude.

Other laughable situations present the two sides of the case simultaneously. We thus experience a rapid alternation between the opposed attitudes, such as the dignified college president rolling aimlessly about on the floor, or the pompous gentleman slipping on a banana peel. In these cases our response to the usual dignity of the person alternates quickly with the opposite response to his present undignified position.

Another phase of incongruity is that lying between pleasure and pain. If the ticklish zones were more vigorously plied they would yield emotions of an unpleasant sort. The small boy sometimes manages to release the pain of a stubbed toe through laughter instead of crying. Laughter is thus a release which may be used instead of a painfully toned emotional

response, thereby making human life more tolerable.

Laughter as a Release of Inhibited Emotion. Theory of Dr. Sigmund Freud -- Freudian Wit. If a child for the first time sees a false-face on a playmate, he may show signs of hesitation bordering on fear. As soon as the trick is discovered he is struck by the incongruity (his old friend with a new and marvelous face), and he bursts into laughter. This response is due, not to the incongruous setting alone, but to the release through a new channel of the effects of a stimulus which previously had produced a fear reaction. The fearful state represented a blocking of action because the situation was wholly unfamiliar: but now a somatic outlet is obtained through the antagonistic and pleasant side of the emotional mechanism. The elementary response to tickling thus fulfills a rather distinct biological purpose in the release of inhibited emotional pressure.

This is the physiological aspect of Freud's theory of the comic, though Freud himself neither recognizes nor understands such mechanisms. His theory explains the bulk of human wit as due to the sudden release of suppressed impulses from the "unconscious." These impulses, which have chiefly to do with our hostilities and our sex attitudes, are usually held in restraint through good breeding and habits of respect for custom and the opinion of others. A joke gives us an opportunity of releasing in a laugh such inhibited tendencies; because, as we assure ourselves, no one can blame us if it is all in fun. Inhibited feelings of contempt, superiority, and envy toward certain associates are often betrayed in this fashion.

A corollary of the Freudian theory is that, unless there is some

repression present in the listener, the joke will not carry its point. In many instances this is true. Jokes on Christian Science are usually not funny to the Christian Scientist, because he has no repressed contempt or incredulity in regard to that faith. A sexual joke, if not too open, appeals to nearly every one; for all of us must put some restraint upon our sex impulses. A joke may sometimes be interpreted in various ways by different people according to their inhibited tendencies.

Laughing is a Social Phenomenon. Laughing is uniquely a response to social stimulation. Animals and things occasionally amuse us, but only because we endow them with human characteristics. In a general sense we laugh only at people. Incongruities arise chiefly through inconsistency with feelings, actions, and personality -- in short through the living and human. A large rock and a small one side by side impress us with a sense of contrast: but the tall man and the short man in the circus fill us with the indefinable humor of the incongruous. In the original tickle situation it was always a person who tickled us: and so our laughter has become conditioned entirely through human stimulation. Human beings are necessary also as objects of the Freudian laugh, in that our emotional responses come to be centered chiefly in persons, and toward humans only do we feel the obligation to curb the full expression of these impulses. Laughter is thus a kind of institution rooted in society itself. We not only laugh at people, we laugh also with them. The social environment is necessary in the role of a contributory as well as a direct stimulus for our mirthful response. One who laughs often to himself is considered eccentric. When we hear a good joke we wish to tell it to some one else to secure the pleasure of another hearty laugh; hence we do not tire of our own jokes. It would follow from all of this that laughter

then is directly proportional to the size of the group. And this is true provided the jest is broad enough to touch the inhibited complexes of all. Men and women in a theater audience will laugh boisterously at salacious jokes which, were they in small mixed groups, would cause them mortal embarrassment. There appear, then, three causes which underlie the hilarity of the crowd: (1) The large volume of stimuli facilitating to laughter present. (2) The release of a common restrained impulse, and (3) the feeling of moral sanction for its release.

An Added Theory of Correction from An Essay on Laughter by Henri Bergson. The MacMillan Company. 1914. (pages 14 to 17)

When an individual sees that some phase of his manners is being laughed at he begins to either show it less or show it differently. Indeed, it is in this sense only that laughter "corrects men's manners." Laughter in this case makes us at once endeavour to appear what we ought to be, what some day we shall perhaps end in being.

BRIEF SUMMARY

The act of laughing is inborn, but the range of things that come to be laughed at is extended by experience -- laughter is innate but conditioned by social stimulation. Laughter is evoked by a sudden transition from one type of attitude to another -- the transition effected between contrasting and incongruous situations. Whenever a situation leads to a quick and complete change of motor setting, providing the new setting is not a vital one like fear, a laugh is likely to be the form of release. Laughter is also brought about as a Release of Inhibited Emotion , such as recognizing a harmless and incongruous situation after first meeting it with hesitation bordering on fear. This is called Freudian Wit.

Inhibited feelings of contempt, superiority, and envy toward associates are betrayed in this fashion.

Laughter is a social phenomenon -- a response to social stimulation; in general we laugh only at people. Laughter corrects men's manners ; it tends to modify or change manners which are laughed at in the social group.

Zelma Flack,
Speech 119.

THE EXPRESSION OF EMOTIONS IN DRAMATIC ART

In order to effectively portray or express emotions in the art of drama we must understand thoroughly the pattern for each emotion. However, we must at the same time understand the emotion itself, even to the extent of feeling it somewhat in an inhibited and controlled manner, to make the expression of it sincere and convincing. Through a study of the psychology of emotions we may learn the patterns for their expression: but we must also be ever on the alert to deepen our understanding of genuine emotion itself.

The various emotional patterns have been determined by psychologists through careful observation, testing and analysis, covering sufficient cases to make their findings valuable and authentic. Gates says that the behavior of a man may be studied quite as directly and scientifically as the bending of a steel rod under weight, the activities of a mixture of chemicals or the movements of the petals of a flower shifted from darkness to light. When the investigator restricts himself to observations of movements of limbs, eyes or facial muscles, to observations or records of vocal expressions, glandular activities or secretions which may be directly observed, recorded by an instrument or analyzed chemically -- in brief, when the investigator observes features of the behavior of man which other investigators could also study were they present, the method is called objective or behavioristic. However, all of the facts useful in explaining and reproducing the behavior of man cannot be observed in this objective way. There are

THE MANIFESTATION OF EMOTIONS IN DRAMATIC ART

many activities and experiences in human life which are limited entirely to one person, the facts of consciousness. These facts of consciousness, or experiences of consciousness are individual or subjective -- sensations such as toothache, muscular strains or coldness, feelings of pleasantness or unpleasantness, recalled images and ideas, desires, motives, and impulses to weep. The observation of such personal experiences is termed subjective or introspective.

It can readily be seen that the study of emotions and their expression must utilize both the objective or behavioristic and the introspective methods of approach. An emotion artfully reproduced through a study of the behavioristic method alone would be too much a matter of pattern and form, lacking the magnetic, the convincing vital quality which moves an audience to a state of empathy.

The Gestalt psychologists maintain that a sensory quality is never experienced alone; but that it is an integral part of a larger conscious act of perception. This perception is a unified experience -- a total pattern or unified configuration. This theory indicates that an emotional response is never a simple reaction, but a rather complex reaction pattern.

The James-Lange theory states that an emotion is subjective, due to conditions within the organism; it is produced by an extensive group of changes in the body, in blood vessels, intestinal muscles, in glands, in fact in nearly all of the bodily mechanisms. These inner changes are severe enough to stimulate innumerable sense organs in the skin, the inner linings of the body, the walls of the blood vessels, the

muscles and other organs. This widespread stimulation results in a veritable flood of sensations due to the torrent of nerve impulses flowing in from all parts of the body. This complex of sensations, according to James and Lange, is the emotion.

That many of the emotions have an instinctive basis is suggested by the fact that they are, so far as may be observed, universal and fairly constant reactions. These emotional expressions serve the purpose of influencing the behavior of other organisms. The display of teeth and other angry expressions, such as hissing, growling and barking, are instinctive forms of "bluffing" to frighten off smaller or less courageous opponents -- and traces of these behavior forms still persist in man's anger reaction pattern. The wide-open eyes in wonder or surprise are an adjustment which provides a wide range of vision. The narrowed eyes in anger provide a visual concentration on the object of attack, while the puckering of brow and closing of lids serve to protect the eyes from injury. The expression of an emotion, therefore, may be said to be the result of sensory adjustments. With anger or fear there is pronounced circulatory changes due to sympathetic discharge. The heart beats more rapidly and with greater amplitude, the arteries of the abdomen are constricted, driving large amounts of blood to all parts of the body providing for increased bodily action. The breathing process becomes deeper and more rapid. The body is adjusted during such strong emotions to provide for the greatest muscular strength and endurance. Cannon, the American physiologist, calls this "The Emergency Theory of the Emotions". The sympathetic system is thrown into gear by events which demand immediate and energetic action -- that is by emergencies. Under primitive conditions this has been observed

most clearly.

Charles Darwin, in his treatise, "The Expression of the Emotions in Man and Animals", sets forth his three principles which he believes to account for most of the expressions and gestures involuntarily used by man and the lower animals, under the influence of various emotions and sensations:

1. The Principle of Serviceable Associated Habits. Certain complex actions are of direct or indirect service under certain states of the mind, in order to relieve or gratify certain sensations, desires, etc.; and whenever the same state of mind (even feebly) is induced there is a tendency through the force of habit and association for the same movements to be performed though they may not then be of the least use. Some actions ordinarily associated through habit with certain states of the mind may be partially repressed through the will, and in such cases the muscles which are least under the separate control of the will are the most liable still to act, causing movements which we recognize as expressive. In other cases the checking of one habitual movement requires other slight movements; and these are likewise expressive.

2. The Principle of Antithesis. Certain states of the mind lead to certain habitual actions, which are of service, as under the first principle. Now when a directly opposite state of mind is induced, there is a strong and involuntary tendency to the performance of movements of a directly opposite nature, though these are of no use: and such movements are in some cases highly expressive.

3. The Principle of actions due to the constitution of the Nervous System, independently from the first of the Will, and independently to a certain extent of Habit. When the sensorium is strongly excited, nerve-force is generated in excess, and is transmitted in certain definite

directions, depending on the connection of the nerve-cells, and partly on habit; or the supply of nerve-force may, as it appears, be interrupted. Effects are thus produced which we recognize as expressive. This third principle may be called that of The Direct Action of the Nervous System.

In brief, Darwin points out by his first principle that movements which are serviceable in gratifying some desire, or in relieving some sensation, if often repeated, become so habitual that they are performed, whether or not of any service, whenever the same desire or sensation is felt even in a very mild degree. His principle of Antithesis points out that the habit of voluntarily performing opposite movements under opposite impulses has been firmly established in us by the practice of our whole lives and by the lives of our ancestors. Hence, if certain actions have been regularly performed in accordance with his first principle, under a certain frame of mind, there will be a strong and involuntary tendency to the performance of directly opposite actions, whether or not these are of any use, under the excitement of the opposite frame of mind. His third principle is the direct action of the excited nervous system on the body, independently of the will, and independently, in large part, of habit.

The chief expressive actions exhibited by man and the lower animals, we conclude from Darwin's data, as well as the research of other men, are innate or inherited and have not been learned by the individual. Darwin says, "So little has learning or imitation to do with several of these expressive actions that they are from the earliest days and throughout life quite beyond our control -- for instance the relaxation of the arteries of the skin in blushing, and increased action of the heart

in anger. We may see the naked scalp of a very young infant redden from passion." From his conclusions we infer that fear, for example, was expressed from a remote period in almost the same manner as it is now expressed by man -- by trembling, the erection of the hair, cold perspiration, pallor, widely opened eyes, and by the whole body cowering downwards or held motionless.

Mr. Darwin's final conclusion then is that the major patterns of emotional expression have come down to us from our very remote ancestors, through a gradual evolutionary process. His thesis does, indeed, seem quite logical, for he developes it with quite adequate data, and we, ourselves, from even later and more detailed sources, can arrive at the same conclusion.

Freud's View of Emotions and their Expression. According to Mr. Freud, founder of the school of Psycho-Analysis, there exists in mankind one primary craving or motive force which plays the dominant role in guiding conduct and in initiating activity. This is craving of a sexual nature termed "libido". At the bottom of nearly everything that man does, feels, thinks or dreams is the subtle operation of this elemental urge -- providing for the furtherence of the species.

James' view is quite in contrast with this view of Freud. He says that instead of one or a few urges, man is born with innumerable impulses which are the main sources of action. Probably the sanest position would come between these extreme views. Gates believes that the springs of human action are to be found in a number of impulses or urges, some of which are probably native.

ourselves, from even later and more detailed accounts, our memories of

Gates says that we can easily recognize general bodily postures which are characteristic of certain emotions. For instance, we speak of being puffed up with pride, bent with grief, and rigid with fear. However, he believes that the expressions of emotions appear more uniformly in patterns of response of the facial muscles. Agreeing with Darwin, he says that the fact that many of them have an instinctive basis is suggested by the fact that they are, so far as may be observed, universal and fairly constant -- that is the more intense emotions. "Much of the expression of an emotion is the result of sensory adjustments to environmental stimuli", says Mr. Gates.

The outward expressions of emotions, depending largely on patterns of response among the skeletal muscles, show an almost unlimited variety. But,while these skeletal expressions are numerous and distinctive, the types of visceral responses, depending on the smooth muscles and glands, are very few. There are three general types of emotions, according to Gates. These three types are:

(1) The strong emergency emotions, depending on the discharge of the sympathetic division of the autonomic system. Since the sympathetic divisions act as a whole, such emotions must be organically much alike. They may, however, differ in degree from very slight to very great intensity.

(2) The mild, joyful, upbuilding emotions, depending on the activity of the sacral and cranial division of the autonomic nervous system. The sensations thus provided are usually mild and inconspicuous, and since they arise from the normal healthful bodily functions they are often not thought of as emotions at all.

(3) The sex emotions, including lust, depending on certain activities of the sacral system. Presumably there are several types of sex sensation-complexes. Some of them vary in degree from slight to great intensity.

Mr. Gates concludes that, aside from the sex emotions and the mild, pleasurable states of well-being which go with the action of nerves in the cranial and sacral autonomic, all other genuine emotions, so far as known, result from innervations of the sympathetic system.

The two emotions, anger and fear, are related. All of the inner changes brought about by the action of the sympathetic system are somewhat the same, except for differences in intensity or degree, in the emotions of anger and fear, also in jealousy or anxiety. The fundamental feature of all of these strong emotions is the flood of sensations, a sort of excitement and turmoil aroused by impulses from the smooth muscles and glands. However, there are differences in these emotions. Being afraid or angry are very complex experiences including components other than the sensations from functions controlled by the sympathetic system. They include a certain pattern of response of the skeletal musculature, and each has its particular facial expression and its specific arrangement of muscular tensions, inhibitions and relaxations in the hands,arms, trunk, legs, and feet. But this difference in the variations in the patterns of adjustment of the skeletal muscles is not the only difference in these emotions. The percepts of the exciting objects differ greatly in the different experiences. In fear it may be a wild animal: in anger an annoying intruder. These percepts and realizations of these situations, the related memories, anticipations, apprehensions and other ideas tend

to fuse with the internal and muscular sensations, to make the difference in response pattern. Gates believes, however, that the organic turmoil which is the main component of an emotion, is essentially the same in all strong emotions except lust.

Again agreeing with Darwin, Gates sets forth the hypothesis that the springs of human action are to be found in a number of impulses or dominant urges, some of which are native.

According to Floyd H. Allport the language of facial behavior is a supplementary and unconscious one. While it is capable of gaining much significance through careful interpretation, in its usual role it is more often contributory than direct. It acquires its meaning through the bodily movements and other stimuli of the whole situation in which it occurs, and it attains great significance as a contributory stimulus in crowds. Facial expression is an involuntary stimulus which can be used to read what the individual is unwilling to make known in words. We can inhibit the grosser reactions, but a keen eye still detects the widening of the eyes in fear or doubt, and the incipient frown. In cases of secrecy where words and gestures are out of question the twitch of the mouth, the mandarory wink, and the covert frown of warning exert direct influence upon the behavior of others.

In formulating his evidence of emotion from genetic development, Allport states that the emotional states of the newborn baby appear to be undifferentiated. Judging from behavior alone, they have no further character than pure unpleasant affectivity; the first prepotent stimuli which act upon the infant are usually those for which the somatic responses are diffuse and undifferentiated. Internal

pains of hunger and colic, and unfavorable temperatures, are among such stimulations. Therefore, at the beginning of the life of feeling there is little to differentiate the emotional states beyond the mere qualities of pleasantness and unpleasantness. However, before long the child brings into play the various prepotent somatic responses, such as struggling, rejecting and withdrawing, and thus differentiating factors are added to the sympathetic pattern, and anger and fear emerge as distinct emotions.

Beneath all variety of facial expression in emotions there may be recognized two fundamental types, the pleasant and the unpleasant. The basic pleasant expression consists largely of the elevation of the corners of the mouth, the cheeks also being raised and the brow smooth. The unpleasant type has a depression of the corners of the mouth, a drawing down and elongation of the cheeks, and a wrinkled brow. In bodily pain, the extreme form of the unpleasant emotions, there is a contraction of both sets of brow muscles producing both horizontal and vertical wrinkles in the forehead. The inner portions of the brows are raised more than the outer, resulting in the oblique eyebrows, always seen in painful feelings. The drooping lids distinguish this expression from intense fear. The mouth in intense states is somewhat open and drawn to one side, producing a deep line between the angle of the nose and the corner of the mouth.

In the Surprise-Fear Reaction the sensorial attention is absorbed by some object before the gaze, and the eyes are opened wide and the brows lifted, suggesting horizontal wrinkles in the forehead. Since being surprised or astonished always involves this type of attention, its expression becomes a component of the astonished face. In

amazement the mouth drops open in a speechless manner, and the horizontal brow wrinkles are prominent. The unusual and astonishing is often terrifying, and so we pass from amazement, through alarm and fear, to horror, the most extreme of this expression group. The object is fixated with wide open eyes, the mouth opened wider, nostrils dilated, and the head averted in awithdrawing reaction of flight.

In anger the brows are knit together and drawn downward at their inner ends -- hence the brow wrinkles in this state are vertical. The eyes are opened wide to fixate the object of wrath, the lower lip is drawn tensely backward and downward exposing the lower teeth, while the jaw is prodruded rigidly. There is also a widening of the nostrils.

These are a few analyses of facial expression of emotion, dealt with in a stationary manner. However, dynamic aspects such as the shifting of the eyes, the quickness of the frown, and the changes in respiration, require a motion picture in order to complete such an analysis. A great deal also is added to facial expression by the accompanying movements of the head, arms, hands -- in fact the use of the entire body. In many cases the movements of the body cause us to read a significance into the facial aspect which we might otherwise miss. For instance, the hands held vertically in front of the body with palms inward convert a sober, upward gaze into a religious expression; but with palms forward in front of the chest, and fingers joined, they show repulsion or a command for silence. When the hands are held somewhat lower, with palms forward and down-

[illegible] in a speechless manner, and the [illegible]izontal brow wrinkles are prominent. The unusual and astonishing [illegible] often terrifying, and so we pass from amazement, through alarm [illegible], to horror, the most extreme of this expression group. [illegible] is fixated with wide open eyes, the mouth opened wider, [illegible] is dilated, and the head averted in awi hdrawing reaction of [illegible].

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[illegible] forward in front of the chest, [illegible]

ward and fingers spread, the effect is one of abhorrence or disgust. In order, therefore, to adequately analyze and understand an emotional pattern we must study it from details of facial expression, from the total bodily posture and attitude, including all gestures -- in fact from the total situation.

In conclusion, the writer of this paper will state with considerable certainty that emotions, especially those of the more intense nature, are expressed in definite and recognizable facial and bodily patterns, which can be studied and reproduced by the dramatic artist at will. Emotions expressed by the interpretive artist need not be genuine emotions, though they may partake of the nature of the real emotions. The interpretive artist must first of all understand the emotion thoroughly, and its particular pattern of expression; and he may even feel the emotion in an inhibited and well controlled manner, while portraying it to his audience. But the emotion must always be well under control, and its expressional pattern as clear-cut and recognizable as possible.

A distinguishing feature of the true dramatic artist seems to be his ability to successfully reproduce recognizable emotional patterns at will, feeling the emotion slightly as he portrays it, though keeping this feeling well inhibited and controlled. It is this inhibited approach to the actual emotion which, it seems to the writer of this paper, gives its portrayal the vital magnetic quality which moves the audience to empathy.

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"The Expressions of Emotions"
by
Carney Landis
Wesleyan University
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Edited By
Carl Murchison
1929

Speech Course 119.
Instructor: T. Earl Pardoe

July 15, 1935
Sarah Helen Ward.

What is your reaction to the report?

There have been three methods available for the experimental investigation of emotions: — (1) the study of the expressions which accompany - or are — the emotions, (2) the method of descriptive and introspective reports of the experimental phenomena of "mental life" which are characterized by feeling, and (3) the investigation of the action of the nervous system and of the endocrine glands.

The behavior of a human infant indicates that the recognition of emotional expression is not present at birth but develops very rapidly, as if there were some innate tendency awaiting only maturation and directional stimuli. Socially, the recognition of expressions of emotion is clearly of an acquired nature. This acquisition is of the nature of a language mechanism. The expressions themselves, so far as the facial expression is concerned, are usually

learned responses. Just as one learns to say "Oh" or "Ouch" in response to injury or surprise, so the expression accompanying the verbalization is usually a learned response.

The earliest systematic study of facial expression is that of physiognomy, which was in its original scientific sense a two-fold science: — (1) a mode of discriminating or predicting character by the outward appearance, and (2) a means of classifying form and feature. The classification of the relationships between facial expression and character is found in the earliest literature of the Greeks and Romans. The practice of physiognomy was one of the first branches of intellectual interest through all the Dark and Middle Ages.

After the many centuries of speculation concerning the importance of facial expressions as a criterion of emotion or character, Darwin, in 1873, announced three principles which

he hoped would account for most if not all, of the expressive gestures involuntarily used by men and the lower animals in emotion. These principles are; (1) The principle of the serviceable associated habits. (2) The principle of antithesis. (3) The principle of the direct action of the nervous system.

Wundt like Darwin has three principles of systematization: (1) The principle of direct change in innervation. (2) The principle of the association of analogous sensations of similar feeling-tone which mutually reinforce. (3) The principle of the connection of movement with sense ideas.

James proposed the five following principles; — (1) The weakened repetition of movements which formerly were of utility to the subject. (2) The principle of reacting similarly to analogous feeling stimuli. (3) The principle of weakened repetition of

movements, which under other conditions were physiologically necessary effects. (4) The principle of the mechanically determined distributive effects of the stimulus. (5) The principle of the mechanical perpetuation of emotional reactions which may be called accidental as far as their origin goes.

Sir Charles Bell laid the foundation for the scientific investigation of facial expression when he published the first edition of his Anatomy and Philosophy of Expression in 1806. Bell developed the notion that the expressive reactions of the face were based upon the anatomical relationships of the muscles so that expression was limited in its scope by the anatomical structure.

Piderit contends that facial expressions may be reduced to three fundamental expressions:- astonishment, grief, and joy. From these expressions he believed that one

can synthetically build up most, if not all, other human expressions.

The act of blushing or flushing is a distinctive facial reaction which enters into the physiology of expression. Blushing may be said to be a peculiar human trait since no animals show this type of reaction.

Both historically and individually the human race has a great trust in its ability to read and interpret facial expression. The historical treatment of expression is that of physiognomy; the biological treatment, which grew out of the theory of evolution, particularly the Darwinian, attempts to demonstrate the evolution of mental traits. It must be distinctly understood that such reactions are social expressions and are of the same nature as in language or in any other acquired activity.

The work upon the interpretation of photographs which had been posed as expressions of emotions was initiated by Miss Tilney. She found that the expressions of disgust, sneering, and breathless interest were judged correctly more often than any others, while those of suspicion, religion, anger, fear, hate, and rage were judged very poorly. Several years later Langfeld tried a similar experiment making use of an artist's sketches of posed emotional expressions. He found that laughter could usually be interpreted correctly, that fear and anger were confused, that surprise and suspicion were confused, and that the contempt scorn group was judged more correctly than any other expression.

Bigby, using an adjustable "Piderit" model or caricature of a face found that only two percent of the judgements of a group

of 710 subjects agreed with the title of anger, while sixty one percent agreed with the title of haccar. These two expressions represent the extremes on his scale of agreement.

Landis has conducted several experimental studies of facial expression. By taking pictures of the facial expression and by recording the blood-pressure and respiratory rates it was found that there are marked individual variation in the expressive reactions as produced. It was interesting to note that the men in this experiment used more facial reactions than the women.

That each subject has two or three facial patterns which he uses in all situations and which constitute the vast majority of that individuals expressiveness is an interesting point bearing on a general theory of emotions. In general, simple emotions or simple

expressions were never found; they were always complex.

The experimental investigations of the facial expressions of emotion of the adult or the bodily activity of the infant indicate that there is no pattern of expression which may be said to characterize any situation or emotion of any one individual or group of individuals. Practically all of the current theories of emotion demand that we should find such patterns, not in the voluntary musculature, then in the visceral responses of the individual.

The significance of variations in the vocal expression as concomitants, or part of, emotion is older phylogenetically than is facial expression. Darwin classifies most of the vocalizations of animals as emotional.

There are two varieties of expressive facial reactions which are certainly innate. None has

ventured to criticize the notion that laughter or crying were pattern responses. There are, according to Dumas, five major problems in connection with laughter. They are: the problem of its physiological mechanism, the problem of the joyful laugh, the problem of the comic laugh, the problem of the connection between the mental state and its outward expression, and the problem of laughter as a social phenomenon.

According to Aristotle, laughter is due to "the sudden feeling of triumph which comes with the sudden perception of a superiority in us, by comparison with the inferiority of others or our own former inferiority."

With regard to the social aspect of laughter, Dumas calls attention to its contagious nature. We laugh far more easily in a group, than when alone. We sometimes laugh for the pure joy

of laughing.

The question of tears involves four problems: physiological, psychological, psycho-physiological, and social. Crying is essentially a breaking down of adaptive mechanisms which are no longer adequate to meet environmental conditions.

At this point one conclusion may be made, namely that the facial expression is but a more or less variable part of emotional experience. The particular character of the expression is, to the best of our present knowledge, dependent on the survival of primitive connections within the nervous system.

The question of the activity of the entire body in affective experience is an exceedingly complicated one. Carr has pointed out that the bodily responses in emotion should be considered under three heads: (1) the set,

which refers to those processes which constitute adaptation to the objective situation, (2) the emotion, which refers to those activities which increase effectiveness to the act, (3) the reinforcing processes which constitute the by-products of the emotion as act.

The most recent development in psychology, namely the Gestalttheorie carries with it certain implications concerning emotional expression. This theory holds that emotional expressions are perceived as such, as totalities, and not in terms of the amount of muscular activity of the mouth, the wrinkling around the eyes, or in any other element analyzed out of facial response.

Taking up the visceral responses to emotions, it has been found by experiment that there is an increase in the blood volume of the periphery of the body during pleasantness and a decrease during unpleasantness. The findings of

blood-pressure studies are as indeterminate as the findings of blood-volume changes when considered as expressions of emotion. A variable factor in the constitution of the blood is the presence of glycogen (blood sugar). Cannon has demonstrated that there is an increase of blood sugar during emotional stress.

In heart reactions there is a possibility that cardiac reactions might furnish some expressive pattern. However, the results of this study failed either to confirm or deny assumptions concerning the activity of the autonomic nervous system.

Considerable investigation has been directed toward the relationship between respiratory pattern or respiratory function and feeling.

The findings concerning respiration as an expression of emotion may be summarized as

follows:- (1) Respiration does not vary directly with emotional excitement. (2) Certain respiratory patterns are diagnostic of certain situations. (3) Simple pleasantness and unpleasantness probably are accompanied by respiratory changes which do not influence the content of the experience. (4) Respiration is undoubtedly a leading factor in emotional expression, but is not a differential expression of emotion.

The metabolic rate is a very doubtful expression of any mood or temperament. The alterations in metabolic rate are not to be considered as expressions of emotion but as concomitants of emotion. There are several suggested causes for the increase in metabolism during emotion: (1) an increase in the secretion of the adrenalin or of thyroxin with consequent release of glycogen and carbon-dioxide elimination; (2) an

increased muscular tonicity or incomplete muscular relaxation of the voluntary muscles of the body; (3) relaxation of the bronchioles with consequent absorption of more oxygen; and (4) a greater metabolism of the central nervous system itself.

More experimental work is needed before one will be able to say with any degree of certainty which is the correct explanation or what is the proportion of the change which is due to surgery of the posture.

From all the studies of visceral reactions it will be noted that metabolism, gastro-intestinal activity, respiratory activity and circulatory activity are all intimately interconnected. The visceral responses are to the best of our present knowledge mediated over the autonomic nervous system or through the action of hormones acting directly on the organs. The disturbance in emotion lacks pattern

in the sense that pattern should be shown in the same way in all individuals. The visceral changes give a basis for emotion but are not the emotion or conduct expressions of it.

In taking up Endocrine action in relation to emotions we find:- (1) The endocrine glands produce internal secretions which furnish the background or general tone of emotional experience. (2) In order that emotional experience may be considered normal, it is necessary that the interrelationship between all glands be well balanced. (3) There is no specific connection between any particular emotional experience or expression of emotion with any particular gland. (4) Adrenalin makes possible the excess output of energy in an emergency situation, while thyroxin furnishes the background persisting over a period of days or weeks. (5) Interstitial secretions are

necessary for the adequate expression of sexual passion.

In the role of the nervous system in the expression of emotion, Lapicque has developed a systematic explanation of neural activity based on the time energy relations of the activity of functional tissue. He calls this peculiar property of living manner "chronaxie". The more intense the heterochronicity of the neural system, the more intense the unpleasantness of emotional experience. Pleasantness is to be regarded as the absence of unpleasantness.

Head has pointed out a distinction in cutaneous sensation quality which he terms protopathic and epicritic.

The problem of the nature of feeling is one which has long puzzled physiologists and psychologists. A broader theory which is gaining some attention at present depends

on the fact that the autonomic nervous system contains sensory as well as motor fibers. Coordination is identified with perceptual pleasantness, and incoordination with unpleasantness.

If autonomic responses are to be identified with emotion and a reasonable case can be made for this assumption, then one would be correct in saying that the reply is specific to emotion. The major objection to this claim is that it does violence to the usually accepted usage of the term emotion.

The term *feeling* has at least three accepted usages: (1) a term referring to the experience of pleasantness and unpleasantness, (2) a description of an experience which is less vivid than emotion, and (3) the report of vaguely perceived sensations which do not have clear perceptual quality.

Feeling is marked by quality,

intensity, and duration, but lacks clearness.

Certain conclusions concerning feeling as an expression of emotion may be drawn: "(1) Feeling is certainly not a simple, easily identified mental experience. (2) Feeling cannot be identified with any specific physiological occurrence or pattern of reactions. (3) Feeling may be either (a) the protopathic-epicritic element of sensation, (b) facilitation or inhibition in neural activity, (c) presence or absence of pain, (d) presence of reactions governed by the autonomic nervous system, or (e) the energy balance of the organism at any particular time. (4) Psychologically, feeling, in the sense of pleasantness or unpleasantness appears as a unique experience but one which may be the product or by-product of many other experimental processes.

The expressions of feeling are more difficult to systematize than

the expressions of emotions. Developments in this field which are practically certain to occur within the next generation will profoundly modify all of our notions concerning psychology and the behavior of the individual in relation to the group.

It is apparent that many of the expressions of emotion are innate. There are many expressions which do not fall into any purposeful classification, as, for instance laughter and crying. Of certain expressions are mimetic of either past experiences of the individual or more particularly past experiences of the race, then we must have a type of neural functioning or an inheritance of modified nervous functioning which has not been hitherto described. It is safest to say that the major expressions of emotions are physiological survivals of earlier biological relationships within the species, and that for

the most part the expressions of the adult are the result of learning or training.

From reading this article by Carney Landis I have observed how the expression of emotions is said to affect the different mechanisms of the human being.

The face which is recognized as one of the most important means of expressing emotions was taken up first in connection with the voice. The relation of the body to emotion, the visceral responses and the glandular responses were then discussed in their respective relations to the expression of emotions.

All emotions are found to affect the different parts and organs of the body when they are expressed, but they vary to a great degree in different individuals, although the fundamental pattern is practically the same.

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THE RELATION OF THE ADRENALS TO EMOTIONS AND DRAMATIC ART

Term Paper By:

J. C. Harris

Speech 119

Many of us have probably seen or felt the surface manifestations of excitement; pallor which resulted from the contraction o f the blood vessels, the pouring out of cold sweat, the stopping of the saliva flow and the cleaving of the tongue to the roof of the mouth, dilation of the pupils of the eyes, the rising of the hairs along the nape of the neck, a throbbing of the pulse due to the rapid beating of the heart, the quickly indrawn breath and rapid breathing, the trembling and twitching of the muscles especially around the lips during pain or great emotional disturbances as fear , horror, rage, and deep disgust. These things we have seen or experienced but probably only gave it a passing thought, knowing that the person effected only had stage - fright; had narrowly missed an automobile accident or was very angryand restraining himself from fighting.

However, at the same time we were experiencing these outward sign of conflict, many things

were going on inside our bodies unfelt and unobserved. The human body is a very close-knit, and well organized structure; each part looking after and protecting the others form over work or strain. Each of us is born with a group of glands called the "endocrines" , meaning internal. Two of these are the Adrenals and and through experimentation it has come to light that in times of strong excitement or pain these glands are stimulated and give forth a secretion into the blood-stream. And through further experimentation it was found that this secretion causes many chemical and physical reactions in the body. Among its more prominant reactions are those known generally. It liberates sugar from the liver into the blood-stream. It relaxes the smoothe muscle of the bronchioles. It acts as an antidote for muscular fatigue. It alters the distribution of the blood in the body, driving it from the abdominal viscera into the heart , lungs, central nervous system and limbs. Its presence renders more rapid the coagulation of the blood.

And you may ask , "Of what importance is this to me?" Just this. Take for instance the first reaction of adrenalin in the blood, the releasing of sugar from its store-house in the liver. This condition of the blood is known as glycosuria. The disease, Diabetes, results from the blood being super-charged with sugar. Great grief and prolonged anxiety during a momentus crisis have been regarded as causes of individual instances of diabetes and anger orfright has been followed by an increase in the sugar excreted by persons who already have the disease. Kleen(1) cites the case of a German officer whose diabetes and whose Iron Cross for valor both came from a stressful experience in the Franco - Prussian War. The onset of the disease in a man directly after his wife was discovered in adultry is described by Naunyn(2); he also mentions two cases in his own practice --one started during the bombardment of Straussburg (1870), the other started a few days after a close companion had shot himself. In cases of mental diseases, also, states of depression

have been described accompanied by "glycosuria". Schultze(3) has reported that in these cases the amount of glycosuria is dependant on the degree of depression and that the greatest excretion of sugar occours in the fear-psychosis. Raimann(4) has reported that in both melencholia and mania glycosuria is increased. A similar condition in the insane was found by Mita(5), and by Folin(6) and Denis(6) .

Do you still wonder how this affects you? W.G.Smillie found that four out of nine medical students, all normally without sugar , had glycosuria after a hard examination. C.H.Fiske and W.B.Cannon examined the Harvard University Football squad immediately after the final and most exciting contest of the season of 1913 and found sugar in twelve cases. The only excited spectator of the Harvard victory who was examined also had a marked glycosuris.

So you see, it is not only in time of war and trying ordeals that our glandl see fit to function. The adrenals are alert to protect us in the routine of everyday life also.

"Protect?" you say?

Yes, protect. For as far back as man can remember he has been in conflict for existance and without these small glands he would probably have never survived. For when the "saber-tooth" stalked the cave man, fear came to his aid by its effect on the adrenals thus causing a flow of sugar in the blood which, when carried to the many muscles, gave them the added strength to thwart, stave off, or out-run the attacking tiger. For science has proved that sugar in the blood is the optimum source of muscular energy. We all know that a chocolate bar or plain table sugar is a quick source of energy easily and rapidly assimilated by the body and carried to the tissues which use it as a building material, So you see our endocrine glands are ever ready to stand us in good stead and look after our body whenever we are faced by a trying situation either physical or mental, and need helping over the high spots.

Of course these glands have other uses too. Tests prove that their excretions hasten the clotting of blood and this is of utmost importance. The blood is the most important fluid in the entire body and its conservation is essential to life. And when we feel pain and great emotion as we are likely to in fighting where blood may be spilled, our adrenals play their little role of protectors by emitting adrenin into the blood stream precisely when the greatest need for it arises -- thereby hastening the coagulation of the blood flowing from any wound and preserving life itself.

Another of its roles is the changing of the distribution of the blood in the body; driving it from the viceral organs, which cease carrying on digestive processes during strong emotion, into the central nervous system, the lungs, the heart, and to the active skeletal muscles where its utility rises as more and more metabolism becomes necessary as it does in the case of mental or physical exertion, or in time of pain, fear, rage or other great emotional perturbances.

Another important reaction of the adrenin in the blood is that it relaxes the smoothe muscle of the bronchioles thereby dilating them . You know that an urgent need in struggle or flight is a generous supply of oxygen to oxidize the metabolites of muscular contraction, and a quick riddance of the resultant carbon- dioxide from the body. One of the most characteristic reactions in pain and emotional excitement is deep and rapid respiration and this is a direct result of the adrenin rendering the lungs more efficient when fierce struggle calls for a large supply of fresh air and speedy dis charge of carbonaceous waste.

James(7) says that in every person there are "reservoirs of power" which are not ordinarily called upon, but which are, nevertheless, ready to pour forth streams of energy if only the occassion arises. Of course every individual has a varying amount of reserve power and every individual taxes this reserve to a varying degree. There are cases on record (8) of native war dances where the individual would dance for three days and nights without stopping for food

or sleep. However this would not have been possible under normal emotional conditions. The natives had to be aroused almost to a degree of hypnotic extacy by mass and self suggestion in order that their reserve power stored in their glands would be released and keep them going on and on when ordinarily they would have dropped from utter exhaustion. However at the end of this period of artificial exhileration and energy they were complete physical wrecks because their reserve was entirely depleted and there was nothing else to call forth.

You probably know of some instance yourself where some animal when cornered exhibited greater ferocity and strength than is seen an that species normally. Or you have seen a man perform super-human feats of strength and agility under the influence of great emotional disturbance. But had he attempted to prolong this excitment and continued to call on this reservefoe extra strength he would soon have exhausted the supply and wilted into a mass of worn out muscles and organs.

So you see we can not tax these "reservoirs" too much or they will literally go dry and leave us a physical and mental wreck. A conservative estimate would be that at least half of the inmates of hospitals for the insane are people who prolonged one emotion so long that they entirely depleted some gland necessary to maintain a balenced personality, thereby destroying the unity of this intricate mechanism, our body.

All of this has its relation to us in every day life. We must learn to control our emotions or our emotions will control us. We must learn not to brood and be despondant, for this emotion as well as fear and pain or anger calls on some gland to function and the effect may be ruinious if prolonged to extremes. We must realize that anger, when restimulated by thought to a degree of passion or obsession, is sapping the strength of some gland which was originally given us as a means of protection.

You are probably wondering of what significance this is to Dramatic art. Dramatic art calls for <u>some</u> feeling of life. To paint rage one must know how it feels. To mould the ardent lover from clay the artist must have experienced love. He doesnt have to strike the attitude of a lover and

hold it throughout his work onthe piece but in his mind he must be able to see the lines of life.

On the stage the actor cant live his part: cant really experience pain and fear or anger and rage as his role may call for. He must learn the patterns of these different emotions just as the paintor and sculptor. He must be able to see in his mind's eye these patterns and portray them convincingly. For if the actor had to go on the stage day after day and night after night and actually fly into a rage or actually feel the pangs of a parent whose child is dying as his role , it wouldnt be long before there would be another actor playing the part. The first would be a nervous, tempermental wreck recouperating in some home for the mentally unbalanced while his over taxed and depleted glands built themselves up to their normal capacity - if possible.

The duty of glands is one of emergency only. Learn to control your e otions.

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